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MEDICAL EXAMINER,

A

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SAMUEL L. HOLLINGSWORTH, M.D.,

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THE

MEDICAL EXAMINER.

NEW SERIES.—NO. CXXI.—JANUARY, 1855.

ORIGINAL COMMUNICATIONS.

Gastrotomy for the Removal of an Ovarian Tumor; error of diagnosis; peculiar condition of the abdominal parietes and contents; patient recovered. By HENRY H. SMITH, M. D., Consulting Surgeon and Lecturer on Clinical Surgery in the Philadelphia Hospital.

The Philadelphia Hospital, being that portion of the Philadelphia Alms-House which is occupied by the sick poor, is an institution which contains upwards of 800 beds, about 160 of which are occupied by surgical cases. With so large a number of patients, and with a lecture room capable of accommodating 1000 students, it presents us with one of the best clinical schools in the United States. After being for nine years closed to the medical classes of Philadelphia, it was again opened for their instruction in September, 1854.

Soon after entering upon my duties as one of the Consulting Surgeons, I was informed by the Chief Resident Physician, that among other cases requiring operative treatment, was one of ovarian tumor of some standing, in which the patient was so anxious for an operation that she had recently eloped from the institution in order to gain her wishes; he having refused to operate only because she was not in a proper condition. This patient being subsequently presented to my notice, I made an ex-

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amination of her abdomen, but not being satisfied as to the character of her complaint, deferred the expression of an opinion until I could learn more of her history. This, together with the notes of her subsequent condition, being kindly obtained for me by Dr. G. B. Smith, of Tennessee, one of the Residents in charge of the clinical wards, are now presented in a condensed form. To Dr. G. B. Smith, and also to his colleague Dr. T. Braxton, of Va., I feel indebted for the interest displayed in the treatment of the case, as well as for the untiring assiduity with which they attended to the patient for several days after the operation.

Case of Abdominal Tumor. General History.—Maria W., aged 23 years, of sanguine temperament and considerable embonpoint, weighing about 155 pounds, was born in the interior of Pennsylvania. At the early age of 14 years she ran away from home, and lived with her seducer until she bore him two children. Being soon after deserted by him, "she lived upon the town," and on one occasion was said to have submitted to the embraces of thirteen men in a few hours. She has had four children, only one of whom is alive; had one child delivered by the operation of embryulcia, and has repeatedly suffered from syphilis, for which she was treated in the hospital. On one occasion she was found to have nine distinct chancres on the neck and mouth of the uterus. It was soon after this visit that she again became an inmate of the hospital, on account of severe abdominal pain and swelling, for which she was repeatedly cupped, blistered, &c., the marks of which are yet very apparent. This visit she thinks was about eight months since, but she has no distinct recollection of the period "when the lump first appeared; though different physicians in the city had treated her for the lump, and she had spent all her money in trying to get rid of it" before she came to the hospital. Such was her history up to the period of my visit, except that "her doctors always told her she had a lump like her sister." This sister had a tumor in the abdomen, of which she died in about 12 months, and on being examined after death, the tumor was found to be filled with water, and hence her anxiety to be operated on promptly.

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After receiving this account I made a most careful examination, and found the following condition of things:

Present Condition.—General health fair, strength good, countenance intelligent, but expressive of temper which is excessive; limbs round and full, but without œdema; pulse natural; abdomen very tumid, especially on the left side of the umbilical, as well as the left hypochondriac and iliac regions, where a globular tumor of the full size of an adult head is perceptible: the skin over the tumor is dark colored and marked by cups; no wrinkle of skin from former pregnancies, owing to the general abdominal distension, which is equal to that of six months' pregnancy; pressure on the left iliac region causes pain; indistinct sense of fluctuation in the tumor and also in the abdomen. Umbilicus quite prominent, and resembling the appearance of a small irreducible umbilical hernia.

The tumor on the left side of the abdomen is irregular on the surface though not lobulated, is *flat on percussion* when the patient lies on her back, but less dull when she lies on her right side. When placed on her right side the tumor falls considerably to the right of the linea alba, and is also moveable in its pelvic connections. The solidity and mobility of the tumor was therefore undoubted.

As Maria was suffering much from hemorrhoids, no examination was made per rectum, but that per vaginam showed a marked prolapsus uteri, with great tumefaction of the neck and eversion of the os. There was also considerable fulness of the anterior and left wall of the vagina. The bladder exhibited considerable irritation, and required the frequent use of the catheter, the difficulty in micturition being apparently due to a tumor within the pelvis which depressed the womb and thus acted on the bladder.

In this examination several of the Resident Physicians and one or two others participated. Knowing the difficulties attendant on the diagnosis of ovarian tumors, I made in all four very careful examinations of the patient, and became satisfied that the tumor was ovarian, that it was comparatively free from adhesions, that it was the cause of her vesical and rectal distress, and that the attempt to remove it was justifiable under the circumstances. In this opinion my colleagues Drs. D. Hayes Agnew and A. B. Campbell fully coincided. After due preparation and

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after a full explanation to the patient of the dangers of the operation, and the probability of our not being able to relieve her, no change was made in her anxiety to submit to it, and she was accordingly prepared therefore by moderate purging with pills of inspissated ox gall; the bladder evacuated; the pelvis surrounded by a large diaper and an anæsthetic (ether 5 parts, chloroform 1) administered. Whilst these arrangements were being effected in the ward, I explained the character of the complaint and the operation about to be performed, to the large class in attendance, stating that the greatest difficulty in all such cases was the inability of the surgeon to make a positive diagnosis before opening the abdomen.

Operation.—The patient being now placed on the operating table, in a perfect state of anæsthesia, the attention of the class was called to the tumid condition of the abdomen generally; to the apparent existence of a slight umbilical hernia, and to the size and position of the ovarian tumor. Whilst all her muscles were thus relaxed by the ether, I, however, thought that the tumor was not so prominent as it had appeared to me on a former occasion, but as this was deemed by all near the table to be due to the absence of the compression made upon it by the contraction of the abdominal muscles, and as the tumor was yet perfectly distinct and moveable, no importance was attached to the observation. Accordingly, I proceeded to operate, assisted by Drs. Agnew and Campbell, and Drs. G. B. Smith and Braxton, and others of the House Physicians. Commencing a little to the left of the umbilicus, I divided the integuments to the extent of eight inches terminating within an inch of the pubis. On carefully dividing the tendon of the external oblique muscle, my finger touched the peritoneum, the linea alba being deficient, and the recti muscles separated at the umbilicus to the extent of one inch and a half by the great abdominal distension. On carefully incising the peritoneum, the omentum majus was found fully spread out over the intestines, thickened to nearly a half inch and filled by a lump-like and fatty deposit. It was also adherent to all the surrounding parts. After destroying some of the adhesions, the hand was passed into the left iliac region to feel the base of the tumor, when the ovary was discovered to be sound, though the uterus was somewhat, though not considerably

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enlarged. As the tumor yet apparently existed beneath the abdominal parietes, the hand was carried more towards the left hypochondrium, and as the patient at this moment began to move, about fifteen feet of intestines protruded at the wound. These were very much glued together by adhesions due evidently to old peritonitis, and the tumor had doubtless been caused by the adhesion of a large intestinal convolution beneath a mass of indurated omentum; for on destroying the adhesions I destroyed also the globular form, and left nothing but an omental tumor. The wound was therefore closed by several points of the twisted suture, covered by adhesive strips and supported by a compress and bandage. On being placed in bed her pulse was 120, and as the effects of the anæsthetic passed off, she became restless, to relieve which she took a half grain of sulphate of morphia. Three hours subsequently her pulse was 78, her urine was drawn off, and she slept. From this time her treatment, which was carefully noted by Drs. Smith and Braxton, consisted in free doses of anodyne, of which she generally took a grain and a half of sulphate of morphia per diem; in the constant use of the catheter to prevent distension of the bladder, and in the close observance of an equable temperature, light diet, &c. On the 6th day the sutures were removed, and nearly the entire wound found to be healed by the first intention. On the 8th day her bowels were evacuated by an injection, being the first time since the operation, and on the 21st day she was able to present herself to the class, having never had a serious symptom. She is now able to move about freely, but yet suffers from hemorrhoids. Owing to the condition of her recti muscles, she wears a broad belt over her abdomen to prevent any tendency to hernial protrusion, the umbilicus being yet as patulous as it was prior to the operation.

Remarks.—The propriety of even attempting the relief of ovarian tumors by the operation of ovariotomy is a surgical question that must be regarded as yet unsettled, the very conservative spirits in the profession looking on it with great repugnance, and the more progressive urging its performance, as the least dangerous method of accomplishing a cure. When undertaken with ordinary skill, the operative proceeding does not present any great difficulty, and the results of the case

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that have been reported certainly show that the risks of peritonitis are not so great in abdominal tumors, especially when adherent as they were formerly supposed to be. But the difficulties of diagnosis, and the numerous instances in which the operation has failed in the accomplishment of its object, multiply daily, and must be regarded as serious obstacles to the establishment of ovariotomy as a settled point of practice for the relief of these tumors. Unless surgeons, when tempted to operate, place their cases upon record without any reference to the success which attends their efforts, no true progress can be made towards the settlement of this question.

The failures which are due to errors of diagnosis are not rare. Lizars of Edinburg, in 1825, reported a case similar to the preceding one, the recti muscles being separated by the distension, the abdomen laid open, and yet no tumor found, owing, as he remarks, "to the great obesity of the patient and the distended fulness of the intestines.* In a second case, the tumor could not be removed in consequence of the enlarged and adherent condition of the omentum. Dr. Bright† also mentions a case in which after the abdomen was opened no tumor was found. Dieffenbach‡ attempted the removal of an ovarian tumor, but after laying open the abdomen found a tumor connected to the vertebra, which contained vessels that pulsated with great force, and on being punctured gave rise to profuse hemorrhage and symptoms of intestinal strangulation, though the patient recovered. Dr. Dohloff§ opened the abdominal cavity for the removal of a tumor, but after searching for it found none. Mr. South‖ states that Jeaffreson, in his tables, reports 23 cases out of 74 in which the diagnosis was not sufficiently accurate to enable the surgeon to foresee the impracticability of carrying out his intentions. In 14 of these 23 there were adhesions to such an extent as to preclude removal, in 3 no tumor was found, and in 6 the tumor proved

* Lizar's Observ. Extirpation of Diseased Ovaria, p. 6 and 7, Ed. 1825.

† Bright on Abdominal Tumors. Guy's Hosp. Reports, vol. 3, p. 257, 1838.

‡ British and Foreign Med. Review, vol. 16, p. 400, 1843.

§ Brit. and Foreign Med. Rev. vol. 16, p. 401, from Rust's Magazine, 1838.

‖ Chelius, Philada. edit., vol. 3, p. 213.

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to be other than ovarian. Dr. Washington L. Atlee* refers to 222 cases of ovariotomy, in 6 of which there was no tumor, or 1 in every 37 cases.

Although these references show that the errors of diagnosis in abdominal or supposed ovarian tumors are not rare, there is, I fear, reason to think, that if all the errors had been published, the number would have been much augmented, two cases having come to my knowledge in which there was no tumor, though the operator was very explicit in stating the infallible signs of its existence prior to the operation. Where truth is stated and facts multiplied by publication, a correct result must be obtained in any question, and it is to be hoped that no surgeon who feels justified in performing ovariotomy will hesitate in placing his operation on record for the benefit of the profession, no matter what may be the result. He who is not conscious of having made an error of diagnosis, must either have been deficient in opportunities of investigating and treating disease, or be wrapped in an impenetrable mantle of self conceit.

Philadelphia, November 1854.

Cases af Albuminuria. By F. W. Lewis, M. D.

The subject of Bright's disease of the kidney in its various bearings has been so carefully and thoroughly investigated by a host of distinguished observers, that it would argue a certain amount of presumption in the writer to fill the pages of a Medical Journal with the details of the subjoined cases, in the expectation of eliciting anything very original or new: nor was such his idea in their publication. These cases are merely designed to illustrate and bring forward in a strong light one or two points of interest occurring in connection with a symptom regarded as essential to the disease, viz. dropsical effusion.

No fact is perhaps better established in the history of this singular and protean malady than the liability of dropsical effusions to remissions and exacerbations at longer or shorter intervals, or perhaps of occasional amendments, so considerable and durable that the patient is enabled to attend to his ordinary duties and avocations for months and even years.

* Table of all the known operations of Ovariotomy, p. 28. Phil., 1851.

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The first of these cases is an extreme illustration of this fact, demonstrating as it does, the small prognostic value to be attached to this symptom (dropsy) in Bright's disease, even when in the most advanced and apparently hopeless stage, and also how rapidly and completely it may subside under these circumstances, without any signs of improvement in the disordered eliminatory function of the kidney.

Case I.—Nathaniel Matthews, æt. 45, (colored,) a porter of somewhat intemperate habits, applied for advice at the Philadelphia Dispensary, Nov. 22nd, 1852. He had suffered for about a year with dropsical symptoms and dyspnœa, but up to eleven weeks previous to date of application, he had been able to follow his employment. About this time the dropsy began to increase rapidly, and the difficulty of breathing became so urgent as to threaten suffocation. He was afflicted with an inordinate craving for food, devouring daily enough for two or three adults, and his diet, as is customary with many of the lower classes of negroes during the season of the year when that fish can be procured, consisted mainly of sturgeon fried in oil; a dish which he obstinately persisted in taking during his entire illness, and which there is every reason to believe contributed to hasten his end.

He also complained of heavy lumbar pains, but had noticed nothing abnormal as to appearance or quantity in the urinary discharge.

When I first saw him his face was emaciated, the upper extremities and cellular tissue of the eyelids and chest were slightly infiltrated, while enormous dropsical enlargement of the belly, scrotum and legs existed. The lungs were much compressed by the fluid in the abdominal cavity. The only abnormal auscultatory sign was a moist muco-crepitation, heard posteriorly at the base of both lungs. The heart appeared healthy, and the pulse, though feeble and frequent, regular. Digestion was impaired; thirst tormenting and constant; the appetite as before stated, ravenous, and the bowels usually constipated. The peritoneal cavity was distended with water to its utmost capacity, and the stomach was also filled with gas, circumstances which contributed greatly to the discomfort of the patient by increasing the dyspnœa. His principal suffering, however, he referred to the scrotum. This was so enormously infiltrated as to cause a com-

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plete obliteration of the penis, and the urine escaping over the surface had caused inflammation and superficial sloughing of the integuments.

The urine on examination was found to contain albumen, together with the casts peculiar to Bright's disease, in large quantity. The amount passed could not be conveniently ascertained.

The patient, in view of his enfeebled condition, was at once placed on the use of diffusible stimulus (gin and essential oil of juniper) and bitart. of potash given in laxative doses. The scrotum was poulticed and supported.

For the next six weeks the urgency of the symptoms rather increased. The over-distended skin gave way at several points, and a copious furfuraceous eruption resembling pityriasis, attended with acute itching and burning pain, appeared over the abdomen, chest and thighs. The pulse had become very feeble and frequent, at times hardly perceptible; more than once symptoms of œdema about the glottis were observed, and the signs of pulmonary engorgement were also more noticeable.

Unable to lie down night or day, tormented by restless insomnia and vague hallucinations, presenting occasionally grave nervous symptoms originating in transient attacks of urinary suppression or retention, the patient was rapidly sinking, when as a "dernier ressort," he was tapped at his own request about the latter part of December, and several gallons of fluid drawn off. Contrary to general expectation considerable temporary relief followed, though for a day or two he was alarmingly prostrated. Shortly afterwards, however, the fluid re-accumulated in the peritoneal cavity, and by the end of the next month, January, his condition was nearly as critical as before the operation. For the ensuing three months he dragged on an existence of protracted, hopeless suffering, anxiously and momentarily expecting death, sustained only by stimuli. Twice a large portion of the integuments of the scrotum sloughed away, and vibices formed at various parts of the surface. The body at times exhaled an insupportable ammoniacal odor, and not unfrequently the patient would fall into a comatose condition for days at a time. Various plans of treatment were tried, and all the most valuable and energetic diaphoretics and alterative medicines prescribed separately or in combination. The various preparations of

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iodine, of potash, arsenic, iron, the vegetable diuretics and hydragogues were pushed as far as prudence would warrant, but nothing afforded the slightest relief. Finally he became dissatisfied, and was induced by his friends to apply elsewhere for medical aid.

For some months I lost sight of him entirely, and towards the end of summer was quite surprised by meeting him on the street carrying a heavy market-basket. Few, if any traces of dropsy were observable, and excepting asthma, an affection to which he had always been liable, he maintained that his general health was altogether re-established. Some drug, administered by a lay-practitioner enjoying an enviable reputation with patients of this class, had, he stated, caused a copious but by no means exhausting drain upon the kidneys and bowels, and a fortnight of this treatment had sufficed to remove the dropsy altogether.

With considerable difficulty a specimen of his urine was obtained and tested. The evidences of progressive disorganization of the kidneys were visible in a notable increase in the amount of albumen and tubular casts. Pus was also detected.

For several months the progress of the case was watched by the writer with considerable interest. The patient during that period had one or two slight relapses, and also wasted in flesh, but by promptly having recourse to the medicine obtained from the lay adviser, (called dropsy pills, and containing certainly gamboge and probably elaterium, in combination with some oily substance,) he was always relieved. During February of the present year, at least 10 months after the disappearance of the dropsy, this symptom recurred, and his system a second time showed evidences of breaking up. The general aspect of the case much resembled that noted during the first attack; the tendency, however, to peritoneal effusion being less, while the disposition to anasarca was greater than at that period.

He found no longer any benefit from using the medicine which had before so frequently relieved him, and I was again requested to attend him. He was placed on the use of iodide of potash, and the gaseous distension of the stomach being a prominent and distressing symptom, carminatives were freely given.

In the course of a fortnight, the anasarca had notedly di-

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minished. The bowels acted more freely, and the urine was copious. From being unable to take food, except in small quantity, his appetite returned, and with it his unhappy predilection for unwholesome articles of diet. For six or eight weeks he continued to improve, and had gained in strength. The fluid had entirely disappeared from the abdomen, and but for the stiffness and cellular induration of the lower extremities, he would have been able to walk about; when, towards the end of July, during the present summer, after an unusually hearty supper of fried fish and cabbage, he fell a victim to his rashness, literally perishing from gaseous distension of the stomach and bowels.

An autopsy was kindly made by Dr. Da Costa in the absence of the writer. Owing to excessive heat and the advanced stage of decomposition of the body, the thoracic viscera were not examined. The liver was healthy, though somewhat enlarged. Both kidneys were found to be twice as large as natural, the external surface was pale yellow and dotted, and a section presented a very characteristic example of the true granular degeneration in an advanced state. Pus existed in the calices, and could be expressed at various points from the substance of the kidney.

The prognosis in any case of albuminuria which presents evidence of organic lesion of the kidney in the tubular casts and organic globules of the urine, has always been and still is regarded as necessarily and uniformly fatal; the above case affords no contradiction to the rule, yet it cannot be denied, that in the present instance the uncertain march of the symptoms and breaks so complete in the chain of morbid action, might tend to mislead the practitioner inexperienced in histological medicine. The presence of albumen alone in the urine has ceased to be regarded as pathognomonic of chronic cachectic nephritis, and in the absence of corroborative proof afforded by this very important aid to diagnosis of the existence of other abnormal elements in the urinary secretion, an observer might reasonably be excused for inferring a favorable termination in such cases.

Another point of interest lies in the very capricious and changing action of medicines at different epochs of the disease, in modifying the amount of dropsical effusion. Science is at a loss

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for an explanation of these anomalies, which, although they necessarily tend to favor empiricism, yet teach the physician never wholly to abandon hope in any case of dropsy, however desperate in appearance, even after exhausting all the resources of materia medica. A remedy, which at one period faithfully given was ineffectual to relieve, may at another, be productive of signal benefit.

It has been a question, too, as to the advisability of tapping subjects with Bright's disease, when death seems imminent, and more particularly where the ascites is complicated with anasarca. In this connection, the writer may remark that he has twice performed this operation, under these circumstances, with great temporary relief to the patients, the cellular infiltration becoming less, coincidently with the disappearance of the fluid in the abdominal cavity.

The second case affords a striking instance of recovery after the gravest symptoms of constitutional poisoning, from absorption of urea, following urinary suppression.

Hannah Etchel, æt. 21, domestic, was admitted into the Pennsylvania Hospital, (term of Dr. W. E. Pepper,) in the early part of March, 1849, presenting symptoms of general dropsy.

About thirteen years before, while convalescing from scarlatina, she was attacked with anasarca, a condition shortly followed by coma and convulsions. These symptoms apparently produced no lasting impression on her general health, which, with the exception of occasional slight catamenial irregularities, had been quite fair up to the date of the present affection, fixed by her at seventeen or eighteen months before admission to the hospital.

At that period she had measles, succeeded by much the same symptoms as those observed after the scarlet fever, excepting that these, in the last instance, proved more permanent and were associated with, perhaps preceded by, the phenomena of anæmia.

At no time since, had she been entirely free from dropsical effusions; frequent and severe headache, habitual constipation, together with some menstrual disturbance, were complained of during this period.

The condition and symptoms of the patient when I first saw her on the 31st of March, about three weeks after her admission into the medical ward, are described in the following note:

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"Body, generally dropsical; cellular tissue of the extremities much infiltrated, and pitting everywhere on pressure; surface cool; complexion waxy, pale; face, and especially eyelids, very puffy; eyes prominent and staring, and both sight and hearing considerably impaired.

Intelligence is average; suffers from constant headache, subject to frequent exacerbations; these last observed to coincide with increase of dropsy, and with more or less embarrassment of the digestion, and urinary function. Patient complains of inward fever and unquenchable thirst; the tongue is red, smooth and pointed; appetite indifferent; there is ordinarily more or less nausea, and sometimes vomiting of light greenish fluid, and obstinate and habitual constipation.

The circulation is languid, pulse averaging 80, feeble; heart's action weak; slight souffle, with the first sound evidently anæmic.

Respiration is healthy; the amount of urine passed varies, being usually abundant, limpid and whey-like, of low sp. gr., precipitating by heat and nitric acid, a copious deposit of albumen."

The treatment at this date consisted in the frequent administration of brisk drastic purges, potass, bitart. and jalap, with infus. of juniper berries, warm bath on alternate nights and a good diet.

A day or two afterwards (April 1st,) an aggravation of all the symptoms took place, probably due to exposure to cold. The headache and nausea became severe and unremitting, the œdema at the same time sensibly gaining ground; her bowels had been unusually confined for some time previously, the jalap, &c. failing to produce a daily evacuation in doubled doses. By the 12th, these symptoms became so urgent, particularly the last, and the dropsical effusion had so considerably increased, that Dr. Pepper decided on prescribing a quarter of a grain of elaterium, to be repeated, if required, in two hours. It is believed, though not positively known, that for three days no discharge from the bowels had occurred; and for the same period, the urine had been passed in exceedingly small quantity. During the day, this drug acted quite freely on the bowels, but there was no reason to infer that any very excessive or debilitating action on

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the system followed its administration, as in the evening, the patient felt better and more comfortable in every respect, and slept for some hours.

At 3 A. M. was informed by the night nurse that the patient had been seized with convulsions and appeared to be dying. I found her lying on her back on the ward floor in a condition of rigid spasm, and almost without motion; her head thrown back; eyes wide open and staring, pupils dilated and sluggish. Her complexion was ashy pale, and her breathing stertorous; the pulse rather full and frequent. Cups were without loss of time freely applied to the spine, and sinapisms to the epigastrium and extremities. These measures seemed to have the effect of arousing her from the stupor, and of relaxing the spasm somewhat; but whether from the constitutional irritability developed by the application, or from some cause independent of this, she almost immediately lapsed into convulsions, which followed each other at brief intervals up to 6 o'clock, when a gradual subsidence of the symptoms took place. The pulse moderated, stertor disappeared, the pupil contracted to its normal dimensions, and she fell into an uneasy slumber.

At 8 o'clock found the patient sitting up in bed. She was quite rational; complained of intense headache, also of dull, uneasy pains about the muscles of the neck and nucha.

In this condition she remained for about half an hour, when the convulsive seizures recurred with augmented violence. These attacks in all respects resembled the first, with the addition of violent spasmodic twitchings of the facial muscles and rigid upturning of the eyeballs during the paroxysm. The right side of the body was also observed to be more powerfully convulsed.

Soon the cellular tissue of the eyelids, sides of the neck, and upper portion of the chest became greatly swollen, while elsewhere, the effusion was visibly on the increase. Although the pulse was feeble and rapid, the carotid impulse, on the other hand, was quite forcible. During the intervals she was entirely comatose.

At 11 o'clock she was seen by Dr. Pepper, who directed the sinapisms to the spine, and (the patient not being able to swallow) brandy f.ʒss. by injection every hour; but so desperate did her condition appear, and so great the prostration, that

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but little if any hope was entertained of her surviving till evening.

During the afternoon violent convulsions succeeded each other with brief intervals; the anasarca, meanwhile, rapidly increasing, and the pulse sinking to a mere thread. Partial paralysis of the right side, as indicated by comparative immobility of the arm and leg during the paroxysm, it was thought existed, but this point could not be conclusively established. Inability to swallow continued, but the brandy injections were in great part retained. At 10 o'clock death was momentarily expected to take place. No urine had been passed for 34 hours, during which period the catheter was twice introduced without result.

She lingered in much the same state through the night, the convulsions not being so frequent or violent, but the vital forces being at so low an ebb as to require the hourly administration of an increased amount of brandy by injection. Towards morning the urinary secretion was suddenly restored, a large quantity of water being passed away in bed involuntarily. At the morning visit she presented much the same aspect and symptoms; the twitchings and jactitation were more marked and frequent, the convulsive seizures less so. The condition of the intellect, pupil, and pulse were as before; no alvine evacuation had taken place, and the urine dribbled away uninterruptedly. Ordered injection of ol. terebinth. fʒss. mixed with the white of two eggs.

About noon a decided abatement in the severity and frequency of the spasm was perceptible. The cutaneous sensibility returned, and the pulse fell to 105. The coma persisted, but was not so complete, and the breathing lost its stertorous character. Great restlessness, with constant tossings and moanings. The pupil began to contract. Later in the day the patient had a free and natural discharge from the bowels, and consciousness in a measure returned. When requested to protrude her tongue, she did so, and with considerable effort managed to swallow a little tea. The ensuing night she passed comfortably, the urine coming away freely, but without her being conscious of the fact.

From this date she began to convalesce, but very gradually. Her first complaint, as consciousness returned, was of loss of sight and defective hearing. For several days her intellect was very dull and confused. She had presence of mind to indicate her

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wants and regained the control of her sphincters; but when not roused by questions, or by the stimulus of unsatisfied appetite, or natural wants, her condition was one of low delirium. She was the victim of curious and distressing hallucinations, fancied she saw strange objects, such as pigs and cats, around her bed, and, in fact, presented symptoms of cerebral excitement, analogous to those observed in mania-a-potu.

As recovery advanced and the secretions became more regular, the dropsy correspondingly diminished. The headache returned with consciousness, varying in intensity, but always present. The pupils contracting gradually, allowed of a limited and imperfect vision, but there was every reason to infer what subsequently proved to be the case, that grave and irrecoverable lesion of the optic nerve had taken place. With the exception of acute pain and spasmodic contraction of the muscles of the neck and jaws sometimes noticed, convalescence steadily progressed up to the 18th of May, when the œdema slightly increased, more particularly in the eyelids and face. Respiration became hurried and was accompanied by a wheezing sound in the larynx. On ausculting the chest, the left side was found to be dull on percussion posteriorly over lower half, the respiratory sound being scarcely audible over the same extent. She had some cough and viscid expectoration. There was also more or less œdema of the glottis, with infiltration of the uvula and half arches.

A strong solution of argent. nitrat. locally applied relieved this last symptom, but for a day or so the condition of the patient was critical in the extreme. By the 22d she was again convalescent.

She remained in the hospital about a month longer, during which period the amount of albumen in the urine underwent no diminution. The headache lingered, and she still wore the same anæmic aspect: the partial amaurosis and deafness also troubled her somewhat, but, with these exceptions, her general health was much better than it had been for months, and she considered herself as sufficiently re-established to marry, for which purpose she left the institution on the 29th of June of the same year.

Some months afterwards I met her; she had experienced a second attack similar in many respects to the first, only not so severe or so long continued. She was almost childish and helplessly blind. The dropsical symptoms had not been urgent at

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any time after leaving the hospital. She remained under the care of Dr. B. H. Rand up to the period of her death, which took place in November, 1850, and it is a rather remarkable fact that during these months she complained of little beside the amaurotic affection. She died comatose.

The writer is indebted to Dr. Rand for the following particulars relating to the condition of the body as revealed at the autopsy made by him. The brain was found somewhat engorged (membranes) and there was some serous effusion into the ventricles. The thoracic viscera were healthy, as also were those of the abdominal cavity, with the exception of the kidneys. These were both much enlarged and flabby, of a pale yellow color, presenting a marked example of fatty degeneration.

Suspension of the renal function, an accident occasionally met with in chronic cachectic nephritis is commonly of short duration, and only partial in degree, its effect on the system being manifest in unusual drowsiness and a lethargic condition, amounting at times to coma. Dr. Copland in speaking of the secondary affections of Bright's disease, observes of cerebral complications, that they sometimes occur in the renal malady, but chiefly in its more advanced stage and acute form, and consist of convulsions and apoplectic seizures of longer or shorter duration, and he specially alludes to a mixed state of apoplexy and convulsions as being invariably significant of a fatal termination. The pathological condition found in these cases is commonly effusion of serum containing urea into the ventricles of the brain. That some such condition must have been present in the above case scarcely admits of a doubt, and hence the fact that recovery and reabsorption of serum in the ventricles, or as is not improbable of a coagulum of blood, should have taken place, cannot but be regarded as altogether remarkable, if not unprecedented.

It might, perhaps, be objected that the patient's sex, age, and state of general anæmia, predisposed to convulsive attacks, depending on simple functional disturbance of the brain, but that this could not have been the case is apparent from the undoubted evidence of organic lesion afforded by the sequela.

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BIBLIOGRAPHICAL NOTICES.

On the Nature, Signs, and Treatment of Child-bed Fevers, &c. By CHAS. D. MEIGS, M. D., Professor of Midwifery, &c., in Jefferson Medical College. Blanchard & Lea, 1854.

This work, addressed by Dr. Meigs, in a series of lively and instructive letters to his pupils of the Jefferson Medical College, has for its avowed object, to prove, that there is no such thing as puerperal fever, that is a primary fever, produced by a vitiated or contaminated condition of the blood, causing, as an effect, the anatomical lesions founded on dissection. This fermentation, putridity, poisonous material, or whatever else it may please physicians to call it, is utterly repudiated by Dr. Meigs as an unworthy remnant of the cerrement de lait doctrine, originating in ignorance and error, but now, by a sound and searching pathology, abandoned to stupid old women, or unprincipled quacks. Dr. Meigs maintains, that puerperal fever is a misnomer, which has helped to mislead and deceive, by fostering a belief that there is a specific cause of the disease independent of, and primary to the local inflammation; his firm conviction after great experience, careful thought, and diligent study of almost all the authors of note upon the subject, is, that all child-bed fevers, (of course he excludes the ephemera,) are primary inflammations of various portions of the intro-pelvic and abdominal regions and that whether that inflammation be a peritonitis, a metritis, a metro-peritonitis, or a metro-phlebitis, there is but one rational and scientific mode of treatment; that treatment is, blood letting, prompt and without stint. He admits that other modes of treatment have succeeded, but looks upon such cases as mere accidents; such patients recovered, but the doctor who prescribed did not cure; he merely stood by and witnessed a great struggle betwixt life and death, in which, happily, life prevailed.

But there are cases, numerous in hospitals, where the patients are in a sinking typhoid condition from the onset; is this puerperal fever? Dr .Meigs says no, but it might be typhus with a superad ded puerperal lesion. But if it be typhus, how is it that a disease, almost universally believed to be contagious, kills all the partu-

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rient women, and leaves untouched the old women, the young girls, and the men? Is this a valid argument? By no means. Our author is prepared for every thing, and provides for this difficulty by the somewhat startling assertion, that typhus fever is not contagious. To be sure he qualifies the opinion afterwards by saying, that he is not sure that it is not contagious, but entertains great doubts of it; nevertheless, takes advantage of the doubt, to sustain his own views and opinions, which, as might be anticipated, are totally opposed to the possibility of contagion in any form of puerperal disease. He maintains, that the opinion so general in the community and the medical profession, viz., that infection is often conveyed by nurses and doctors to their parturient patients, is utterly ridiculous. We confess we envy Dr. Meigs this conviction, so earnestly and eloquently expressed, for the doctrine would, if firmly believed in, prove an inestimable blessing and balm to the unfortunate practitioner, who should find himself and his patients the victims of this fearful scourge. To a sensitive nature, so situated, to doubt upon the subject of contagion would be distraction; to believe in it despair. But our author places him at once above such weakness. If patient after patient succumb, while fifty other practitioners never see a case, it is a singular coincidence, but nothing more; he has only to go on hoping and bleeding, and saying, with the gallant Frenchman, "c'est la fortune de la guerre."

The following passage shows how decided the opinions of our author are upon the subject of contagion: "You know that child-bed fever is contagious, because Dr. A. meets in his practice with seventy cases of the disease, while Dr. B., an equally busy man, does not encounter a single one, though they cross each other's path every day. Dr. A.'s track is marked out by victims, while there are no traces of Dr. B.'s path, except it be in recovered women. And you reiterate that facts are stubborn things. Yet you do not know, you only infer and suspect, or surmise that, if Dr. B. had taken charge of A.'s cases, and vice versa, the result would have been the same on the whole, only the dead women would have lived, and the others would have perished. Who told you so? You believe so. Well, I have some small respect for your belief, while I should bow reverently to your knowledge; you believe so, I don't believe so at all."

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Well, we cannot say that we do know it for certain; but if such a case as Dr. Meigs proposes were brought forward, we think that the keenest non-contagionist would be staggered by it; he might not, certainly, be fully convinced, but he must doubt. Nor could the fine spun arguments and scientific jargon of ten thousand doctors convince the public mind that such a combination of circumstances was not the result of contagion. True, it may be said by professional men, that the public has no right to be considered in a purely scientific discussion. But this question is no such thing. One set of eminent medical men have proved to their own satisfaction, that puerperal fever is not contagious; another equally learned, eminent, and experienced, maintain that it is; a third party also highly accomplished and respectable, are not willing to commit themselves on either side of the question, but go on doubting, and will doubt until they cease to be, so that all their science put together, is but a jumble of hypotheses.

The following is a quotation from Professor Dubois, whom Dr. Meigs invokes to sustain his doctrine:

"When in an establishment for lying in women, several women are successively attacked, it is impossible to say whether there was infection or contagion in the case."

Again Professor Dubois says:

"But what shall we say of an indirect contagion, of which a healthy person, in some way, serves as the vehicle, and which could not pass from one woman to another, except in this way?

The possibility of such transmissions has been suspected, inferring from facts worthy of attention, doubtless, but the significance and importance of which have been singularly exaggerated, through ignorance, malice, or the spirit of system, the histories of them not being sufficiently circumstantial or precise to carry away the conviction of sober men."

We think that Prof. Dubois, in this instance, makes two perfectly unsupported assertions. In the first place, we have the honest admission of many able practitioners that they believe themselves to have been the means of transmitting contagion to their patients. Dr. Gordon records it of himself in sorrow and tribulation. Now doctors are seldom wilfully malicious to themselves, and it was the interest of these men to ignore the facts

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if it were possible for them to twist their consciences to such a point.

Again, the histories of these instances of induced disease may not be perfectly convincing; but we affirm, without fear of contradiction, that many of them are as clear and circumstantial in their detail of the following up of one case upon another, and traced from one victim to another, as distinctly as is to be found in the history of any contagious disease that has ever been described. We admit that the deductions therefrom may be erroneous, as they have often been, where the contagion of yellow fever, of plague, and many others has been the subject of argument, but the narrations are as systematic as the very nature of the subject (contagion) will admit of.

One of our author's arguments against the contagion of puerperal fever, in our opinion a very weak one, is as follows:

"It is an absolute condition of contagion, that it must undergo some certain incubation. If it is a ferment, it must have time to ferment; if a spore, it must have time to develope spores, &c."

But are we prepared to assert, that, during a severe epidemic of puerperal fever, some fermentation or incubation may not have been proceeding in the system, which, like a smouldering fire, only needed the stimulus of parturition, to burst into a blaze.

The following extracts show that Dr. M. admits this:

"Die Geburtskunde, &c., of Franz Kiwisch, 11 Abtheil 1 Heft, contains the remarks of that admirable writer on acute blood dissolution, and cholæmia of pregnant and lying in women. He says, it is allied to a diseased state of the blood in gestation, and that it sometimes exhibits its dangerous character in the clearest manner; and as an example of the malady he cites the following curious case, which is that of a woman 22 years old, of a stout well developed frame, and who, on the afternoon, on the 21st of January, 1851, came from the country to the lying-in hospital.

She had hardly left the conveyance and mounted the first step, when she fell, and with difficulty was got into the labor ward. It was her first pregnancy; slightly jaundiced; face cyanotic; extremities cold; pulse scarcely discerned; drops of thin dark blood from nostrils and genetalia; small ecchymoses on skin; could give no account of herself; pains were feeble; os uteri large as a dollar, and tense; head *high up*; fœtal heart plainly audible. At 10 P. M. she seemed to be sinking, and was then delivered with the forceps, in half an hour after which she expired. The dissection exhibited a tendency within the en-

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cephalon, thorax and abdomen, to oozing of blood here and there from the tissues; but there were nowhere any positive marks of inflammation."

It suits the views of Dr. Kiwisch and Meigs to call this a case of blood dissolution or purpura hemorrhagica. This robust, vigorous woman, died with all the worst symptoms of adynamic fever, because her endangium or blood membrane could no longer continue its office of nervous induction into the blood. Why this is a mere evasion; it means nothing, but that Drs. Meigs and Kiwisch cannot see a fever where a puerperal woman is concerned; if no contaminating or disorganizing cause killed that blood membrane, it becomes the vaguest of all possible speculations.

The author then addresses the following words to his pupils:

"I am well pleased to have recited for you Kiwisch's case of acute blood dissolution, because it ought to show you that a pregnant woman may, even before labor begins, have her blood in such a condition as to destroy her suddenly, and also that the blood might become so greatly changed under the irritations which in pregnancy supervene for some women, that there is the highest probability of diseases following the birth of the child."

Yet Dr. Meigs denies that there can be a fermentation or blood poisoning; he insists, that the endangium is the seat of the primary abnormal action, which affects that fluid secondarily; but there are certainly other causes for disease in the blood. Besides the derangement of the doctor's favorite membrane we may cite cholæmia, caused by a derangement of the hepatic functions. And does not urea accumulated in the blood poison to death; or if the lungs lose their power of sufficiently oxygenating the circulatory system, is it not poisoned by carbonic acid? Besides, whether the blood be dependent on the endangium, or that membrane on the blood for its healthy action, or whether both, or neither have any direct or primary influence, is after all but hypothesis. To use the author's favorite expression, we don't know it.

Nor are dissections revealing inflammatory lesions, upon which, of course, the opponents of the existence of puerperal fever support their position, as definite and conclusive as they suppose, for surely no scientific physician, unblinded by some sense-absorbing theory, will maintain that pathology is synonymous with

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morbid anatomy, or that the scalpel is the only mode of investigating disease.

This question, no doubt, will long continue to be a vexed one. The present state of our knowledge upon the whole subject of contagion is too uncertain and contradictory to form data for settled opinions, and so long as authors, however talented, continue to interpret the phenomena of nature to suit their own peculiar views of a subject, it must remain a fruitful source of contention.

That part of Dr. Meigs work most interesting and instructive, is where he treats of uterine phlebitis, the production of pus and the effects of its entrance into the circulating system. His descriptions of the symptoms attending this fatal accident are perfect, and his instructions for making correct diagnosis most practical and useful.

In letter xv. the progress of a fatal case of metro-phlebitis is as graphic in description as it is touching and eloquent in composition. We cannot resist the pleasure of making the following quotation, though our space is limited:

"What shall I say, in a weak, vain hope of portraying the feelings with which the physician approaches the bedside of one so perilous; what of the deep inner conviction with which, on glancing at the countenance, the decubitus, the gestures, or on touching that hurrying artery, or on perceiving that morbid heat or coolness, or hearing those expressions that lift him on the one hand to the height of hope, or whisperingly tell that the vein is inflaming more and more, that the purulent infection is begun, and that his art, with his wishes, prayers, hopes, are all alike in vain."

The next is a very fine description:

"Then came calm tranquillity, the greatest gentleness, scrupulous politeness, and careful attention to her personal appearance and array, but the pulses ever beat faster and weaker; eructations of gases; then of colorless fluids; then porraceous vomitings; then darker ones; and at last black vomit; lessening pulses; increased respiratory efforts; cooling hands and feet, that turned bluish in their cyanosis, until at last a death-like coldness overspread the limbs, and the icy king advanced slowly to the conquest he made over what was most enchanting among educated, elegant women. Stupor, lethargy, scarcely to be roused, then deep coma, and at last death; rest for the victim, and tears and suppressed moanings for the bereaved. Why say all this? Why, a physician to practice midwifery must be made of stone if he would not feel on these occasions; and if he have a heart of flesh, he surely deserves the sympathy of all good people when he turns away a baffled man, after faithful, well conducted efforts to save one whom no art could save."

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Dr. Meigs treats of all the usual remedies in puerperal fever. His directions for their use are given with all the author's acknowledged practical sense and discretion; but bleeding is his sheet anchor, though he admits that cases do occur where it is inadmissible; such he regards as very unpromising, and measures the chances of success by the amount of bleeding which the patient can bear. Now the whole profession, we think, will agree with him in admitting that in all those cases, accompanied by frank, febrile symptoms, such treatment is excellent, and will often effect a cure. But Dr. Meigs avoids mentioning a fact equally well established, viz., that those puerperal diseases which bear free, sanguineous evacuations are the least formidable.

Though we differ with some of the theories advanced in this book, we sincerely admire its manifold merits, and would be far from wishing to snatch one laurel from the brow of its accomplished author. The epistolary form, we confess, we do not like, and the style of Dr. Meigs is at times wordy even to affectation, but he has evidently studied his subject profoundly, and throws himself into it with an honest fervor which rivets his reader's attention. The earnest intensity and sympathy of many of the paragraphs could only emanate from a gentle, generous spirit.

A Systematic Treatise, Historical, Etiological and Practical, on the Principal Diseases of the Interior Valley of North America, &c. By DANIEL DRAKE, M. D. *Edited by* S. HANBURY SMITH, M. D., &c., and FRANCIS G. SMITH, M. D. &c. *Second series.* Philadelphia, Lippincott, Grambo & Co. 1854.

This most comprehensive work of the lamented Drake will be received with no common feelings by the medical profession of our country. Its posthumous character will at once recall those personal and intellectual traits which made its author beloved and respected by all who knew him. Dr. Drake was no ordinary man. With few advantages of early education, his untiring industry and devotion to his studies, his enthusiastic and enquiring mind, and his excellent natural abilities, enabled him to amass an amount of knowledge which was truly wonderful. His various and extensive writings show how earnest and severe were his labors in behalf of that science to which he had devoted himself. By these and his public teachings, he did much to

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stimulate and improve the Western medical mind. He was also a zealous advocate and promoter of every scheme of public improvement. It may be truly said of him that he possessed all the attributes which should belong to the Physician, being able, conscientious and true-hearted. Even now, though he has passed away from us, his life-long testimony remains, a memory and example which can never die.

> "Only the memories of the just
> Smell sweet and blossom in the dust."

The present work, Book Second, comprising nearly one thousand pages, embraces five parts, in which the subjects of Autumnal Fever, Yellow Fever, Typhous Fevers, Eruptive Fevers, and Phlogistic Fevers, (the Phlegmasiæ,) with their histories, modes of action, pathology, treatment, &c., are most fully and accurately described. It is mainly, however, to the immense amount of local information afforded us, information which spreads over a vast extent of country, and to the writer's ingenious speculations, that the work owes its principal value.

The progress of society in the Great Valley is indicated in the following curious passage:

"In the early settlement of the country, the border warfare with the Indians led to many gunshot wounds; while the warlike spirit, which external dangers nourished, assumed the character of pugnacity, and led the hardy and fearless backwoodsmen to turn upon each other. Both casual and pitched battles were common events; but the state of society was so primitive, that the instruments of mischief were generally the hands and teeth. A pommelling with the first, sufficient to give two or more cases of inflammation and fever, was a frequent result; and the injury and loss of an eye, followed by the same consequences, was equally common; while severe bites on the face and hands now and then gave poisoned wounds, which healed with difficulty. The secretion of an acrid saliva under the influence of rage, is an effect which finds its parallel in the carnivorous animals, and cannot, therefore, be rejected as visionary. With the progress of society this pugnacity has signally abated; yet enough remains to render it formidable to life, for the pistol and the bowie knife have in many parts of the Valley supplanted the teeth and fist."

As a book of reference alone, containing matter which it would be difficult, if not impossible, to obtain elsewhere, Dr. Drake's work should command a place in the library of every American physician. The print and paper do great credit to its enterprising publishers.

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The modern treatment of Syphilitic Diseases, both primary and secondary; comprising the treatment of constitutional and confirmed Syphilis by a safe and successful method; with numerous cases, formulæ and clinical observation. By LANGSTON PARKER, Surgeon to the Queen's Hospital, Birmingham. *From the Third, and entirely re-written edition.* Philadelphia, Blanchard & Lea, 1851.

The volume before us contains very full and perspicuous information on the treatment of Syphilitic Affections, both primary and constitutional. In addition to the extensive experience derived from a large hospital, Dr. Parker states, that he has personally treated more than eight thousand cases. From this ample store he has constructed the present work, which will be found an excellent guide by those who need information on these subjects. He considers the simple non-mercurial treatment as more proper in the primary treatment than in the secondary form of the disease. Even in this form, the cures are often more apparent than real, the disease recurring again when the patient returns to his customary occupation. When low diet, rest, opiate and astringent washes, aperients, &c., have all failed to cure, then, and not till then, he uses mercury, and "this is certainly," he states, "the result of modern experience on the subject." The indications for the use of mercury in primary syphilis are the following:—"When a sore remains long open and shows no disposition to heal under the non-mercurial plan indicated. 2. When secondary symptoms appear before the primary disease is cured. 3. In well marked indurated chancre, more especially if these have been tested by inoculation. 4. In all characteristic sores which have yielded a characteristic pustule by inoculation; the indications for the employment of mercury in the two last mentioned class of cases is still more pressing, if the primary sores be accompanied by bubo. 5. In certain cases of rapidly spreading ulceration, hereafter to be mentioned."

Of the internal administration of mercury *alone*, for the cure of the disease, he has a poor opinion. He entirely agrees with Sir B. Brodie, who says:—"You may patch up the disease by giving the remedy internally, but it will return over and over again." The treatment by inunction, he considers to be both

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more certain, milder and safer. It is essential, however, that the patient be confined to a warm room, or to his bed. Infantile syphilis is stated to be more successfully treated by this method than by any other. The plan, however, which his experience has satisfied him to be the most successful, and accompanied with the fewest disadvantages, is *fumigation*. This is done by vaporising the mercury from a tin plate by means of a spirit lamp, and mixing it with a small quantity of common steam, so that the patient may be exposed to a gradually increasing temperature. With this method, he advises the administration of small doses of mercury, as, for instance, the twentieth of a grain of the bichloride or biniodide and a milk diet. In the 22nd chapter, full directions are given as to the apparatus required, the form of mercurial, and other requisites needed in fumigation. He considers the treatment by vapor to be applicable to *every* form of constitutional syphilitic disease, and beyond all doubt the most speedy, certain, and safe remedy that can be employed. We shall not enter into any further remarks upon Dr. Parker's work. We shall merely state that it has passed through three editions in England, has long been recognized as a standard work there, and is well and favorably known to the profession in this country. We dislike the wording of the title page. It strikes us as being too much in the vein of the advertising gentry. With this exception, we sincerely recommend the work to our readers.

Nature in Disease, illustrated in various Discourses and Essays, to which are added Miscellaneous Writings, chiefly on Medical Subjects. By JACOB BIGELOW, M.D., Physician and Lecturer on Clinical Medicine in the Massachusetts General Hospital, etc. Boston: Ticknor & Fields. 1854.

This little volume contains a collection of Dr. Bigelow's papers, chiefly bearing on the subject of "nature in disease," the basis of which was his discourse on "self-limited diseases," delivered before the Massachusetts Medical Society in 1835.

The study of the natural history of disease is closely connected with an accurate study of pathology, and thus it was that the "vis medicatrix naturæ," although so frequently invoked in the

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writings of the older physicians has not been carefully investigated until the present era in medicine.

In the volume before us Dr. Bigelow enquires into the individual diseases which belong to the class of self-limited diseases, and in how far medicines are capable of controlling morbid changes. Remarks on so important a subject, coming from one who for upwards of a quarter of a century has been such a close observer, must necessarily be listened to with attention by the whole profession.

The chief diseases which are at present considered self-limited, are measles, scarlet fever, and small pox. To these Dr. Bigelow adds of the more common affections, erysipelas and typhoid fever. The latter he considers self-limited mainly on account of its marked affinity with the class of eruptive fevers. We have, however, more than mere analogy in favor of this view. Both Louis and Nathan Smith, names intimately connected with the history of typhoid fever, affirm this to be the result of their long experience.

The great barrier to an appreciation of the effect of remedies must always be the difficulty of distinguishing between the symptoms of diseases and those produced by the use of the medicines employed. There are, besides, other obstacles which blind our judgment, and which are so happily alluded to by Dr. Bigelow, that we will be excused for producing the passage at length.

"Independently of the common defects of medical evidence, our self-interest, our self-esteem, and sometimes even our feelings of humanity, may be arrayed against the truth. It is difficult to view the operations of nature, divested of the interferences of art, so much do our habits and partialities incline us to neglect the former, and to exaggerate the importance of the latter. The mass of medical testimony is always on the side of art. Medical books are prompt to point out the cure of diseases. Medical journals are filled with the crude productions of aspirants to the cure of diseases. Medical schools find it incumbent on them to teach the cure of diseases. The young student goes forth into the world, believing that if he does dot cure diseases, it is his own fault. Yet when a score or two of years have passed over his head, he will come at length to the conviction, that some diseases are controlled by nature alone. He will often pause at the end of a long and anxious attendance, and ask himself, how far the result of the case is different from what it would have been under less officious treatment, than that which he has pursued; how many in the accumulated array of remedies, which have supplanted each other in the patient's chamber, have actually been instrumental in doing him any good."

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We might quote still further from this excellent little essay, replete as it is with the sound thoughts of a distinguished medical philosopher, but we have extracted enough to show its general character, and to recommend it most strongly to the attention of every reflecting physician. Besides the discourse on self-limited diseases, Dr. Bigelow's little work contains many interesting papers, of which the Report on Homœopathy, the Remarks on the Mucuna Pruriens, those upon the poisonous effects of the American Partridge, and the Experiments on Pneumothorax, are most worthy of notice.

Phreno-Geology: The Progressive Creation of Man indicated by Natural History, and confirmed by discoveries which connect the organization of the brain with the successive geological periods. By J. STANLEY GRIMES. Boston and Cambridge: James Munroe & Co. London: Edward T. Whitfield. 1851.

We have been induced to notice the work before us, although not within the legitimate field of our duties, by the fact that it has obtained a large circulation, particularly in the Western States, and is probably considered by many persons ignorant of the subjects touched upon as setting forth orthodox scientific views. We shall make no apology, therefore, for directing attention to a work which would otherwise only merit contempt and silence.

It is mainly owing to such writers as Mr. Grimes that so much dislike exists in many minds to the study of those discoveries of science which seem to be in opposition to the letter or spirit of revelation. We find, indeed, several instances where the *literal* interpretation of scripture *is* at variance with the clearly established facts of science, yet little difficulty need be found in reconciling them, when we bear in mind that the language used must of necessity have been such as could be easily comprehended by the uncultivated minds to whom it was addressed. We may be sure that no *real* discovery *can* be at variance with divine or scientific truth. Our duty is simply to *prove the truth* of the discovery and of the theories founded thereon, and we need not fear that in so doing we are entering upon forbidden ground.

Very different is the course pursued by the promoters of that

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false philosophy founded upon groundless hypothesis and superficial learning, that finds its best security in attacking the statements of the Bible, and hides the utter want of foundation for its facts and arguments by virtually thrusting forward the proposition, that as the statements of Genesis are not apparently in accordance with some of the discoveries of geology, therefore their discoveries are true, since they contradict the book of Genesis also. To the ignorant and those who cannot obtain better information from books or persons, the false statements and idle theories that are found in works of this class appear true and just, and their minds become filled with errors that shake their faith in the religion of their youth, giving them in place thereof nothing but the nonsensical views of a charlatan.

Others, again, whose religious opinions are deeper rooted, but who are as equally unfit as the former class to judge of the truth of the so-called new discoveries, naturally look at them all in the same light, and avoid troubling their consciences with what they call "the vain learning of the world."

The title that the author of the subject of our notice has chosen, phreno-geology, indicates the nature of the work. It is an endeavor to connect phrenology with the successive creative periods that the earth has passed through, and to show that each period had its corresponding development of intellectual organs in the brains of its inhabitants, which gradually became more and more elevated in their structure as the earth advanced through its changes, until at last the mind of man was the result. He endeavors to establish the following points, viz:

"1st. That the organs of the human brain are added and superadded in a manner such as they would be if they had been successively created to conform to the geological changes which took place after the first animal was created.

"2d. That the convolutions of the brain are arranged as they would be if caused gradually by the pressure of the brain during birth.

"3d. That the pons and the callosum are added to hold the two hemispheres together.

"4th. That the physiognomy of man was created and caused by his habits while he was yet below the standard of modern humanity.

"5th. That instead of the earth being created for the animals which it contains, and adapted to them, man and all other animals have been created by the agency of the infinite variety of stimulating circumstances which have been brought to bear upon organized bodies during the immense periods of time indicated by geology."

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The author adopts Lamark's view, that man is the product of a progressive development from the lowest form of animal life into a higher type, the changes being induced by the necessities of the creature and propagated in its descendants. It is needless to attempt a refutation of so absurd a doctrine. Its advocates have utterly failed in adducing a single instance of a transformation among even the lowest types into one more elevated, nor can they even produce a more plausible hypothesis in favor of it than that, because the lower forms of animal life existed before the higher, therefore the lower forms are developed into the higher. With as much propriety might we watch the gradual growth of vegetation upon a rock in its process of disintegration into soil, and exclaim, behold! the oak is but the development of the lichen, for on this rock we found, first, the lichen, then the mosses, next the creeping wood plants, and now, here is the oak.

A few extracts will show the learning, logical skill, modesty, and high religious tone of the author.

"A modification of the theory of Lamark has been brought forward lately in a work entitled the 'Vestiges of Creation.' The truth of this doctrine is, however, denied by many geologists and naturalists, among whom is Mr. Lyell, ... Cuvier, and most of the great European and American naturalists. But history teaches us to receive the published opinions of popular and salaried philosophers upon such subjects with much allowance for the delicate circumstances in which they find themselves placed. It is dangerous to advocate important truths in advance of the age. Diana of the Ephesians is still too great to be approached without prudence and respect."

The world at large should be grateful that Mr. Grimes's position as a lecturer upon phrenology does not place him within the ranks of trammelled philosophy.

Another of his remarks is the following:

"It is a startling announcement, that our ancestors once inhabited the mighty deep, and, sustained on broad extended fins, roved through the vast ocean. But if our theory is admitted, such is the inevitable tendency of the arguments, and nothing but the intervention of a miracle can prevent this conclusion."

How beautiful Trinculo's description of Caliban meets the above view. "What have we here? a man or a fish? dead or alive? A fish! he smells like a fish; a very ancient and fish-like smell! a kind of, not of the newest poor john; a strange fish!"

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The argument (?) principally relied upon appears to be the following:

"By the will of God, the increasing coldness of climate produced the principal circumstances that produced animals and man. The earth was once too hot to allow of the existence of animals; they were not produced until it had cooled down to a certain point. Plants, infusoria, radiates, molusks, trilobites and fishes were then created. I do not mean to assert that these animals were created in the order named; they may have originated and progressed simultaneously. If the earth had continued at the same temperature which it then possessed until the present time, it is certain that man never would have existed in his present form. We should now have all been fishes or nothing,—*aut pisces, aut nullus.* We could not even have advanced to the dignity of reptiles, enjoying the privilege of crawling occasionally out of the water into the mud on swampy islands of the sultry ocean. Still colder must it have been when our great reptile parents left the ocean altogether, stood upon the solid earth, fed upon its herbage, and breathed with lungs instead of gills. It must have been colder, or such an atmosphere could not have existed. I doubt not that the atmosphere was the agent under Providence that created the lungs—the solid earth created the feet—the food created the teeth and digestive organs—the temperature of the air created the skin, hair, and feathers of land animals, and the light created and modified the eyes. It may have been millions of years in doing this, but geology does not restrict us in regard to time. Only admit, as every one must, that some slight change in organization can be produced in a thousand years exposure to some powerful influence, and the whole argument is at once surrendered, for geology instantly steps in with its vast period of time to accomplish any amount of transformation which organization is capable of undergoing without destruction. It should also be considered that organization is capable of gradually assuming any form whatever that can be conceived, provided circumstances require it, and sufficient wholesome food, air, and protection can be obtained by the change, and not otherwise. The point that I am now insisting upon, is, that by the will of God, cold produced the circumstances which created man. Admitting that 'the vile race from whom we sprang' once inhabited the water, it is plain that when primeval man in reptile form first left his native ocean, bade it farewell, and established himself upon the land, feeding exclusively upon its productions, if the temperature of the earth had remained stationary from then until the present time, man in his present form would not have existed." p. 19.

"There is no scientific evidence that a single organic thing on earth was ever created suddenly. Every thing is formed by the aggregation of many atoms, and always under circumstances favorable to such aggregation. The aggregation of chemical atoms formed minerals, *the minerals composed mountains, but were an immense number of years in doing so.* Just so chemical elements combined to form vegetables, and the vegetable organisms, aggregated and arranged in a peculiar manner, compose animals. The first elements that were created, had certain

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forms adapted to their need and condition; a change in their circumstances produced a change in their forms, until man was produced. To say, then, that man was made at once, in a single day, from dust or chemical atoms, is to make man an exception to all the rest of nature." p. 32.

The only other "*argument*" that can be found, consists in the frequent repetition of the doctrine that "we are not required to believe anything which is absurd or revolting, merely because it is taught by the strict letter of Genesis." p. 34.

The above passages do not deserve serious refutation, being merely groundless assertions and untenable positions; yet many persons, not familiar with the subject, are doubtless misled by such bold and assured statements.

Mr. Grimes is indebted to the author of the "Vestiges of Creation" for the following absurd deduction. He has faithfully preserved the spirit of the original.

"This process is called crystallization. Sometimes the crystals arrange themselves in forms very similar to the forms of vegetation; this fact is often demonstrated in winter mornings upon our windows, in the various fantastic forms which the frozen vapor assumes. The resemblance of these figures to vegetables strikes every observer, *and inclines us to suspect that the same general law operates in both cases.*" p. 45.

"Vegetation seems to be essentially a modification of the principles of crystallization. Certain mineral substances in the earth are held in solution by water, and certain gaseous substances are held in solution by the atmosphere. When a proper degree of heat is applied, the two solutions act upon each other in a way which is not well understood, but the result is a combination of the ingredients of both, which assumes regular forms. *This is vegetation.*" p. 46.

Very clear and lucid; a most valuable addition to our knowledge of vegetable physiology.

The word Magnetism serves the same purpose to the pseudo-philosophers of the present day, that the term "Ether" did to the ancients; that is, whenever they are utterly unable to understand or explain a phenomenon, they connect with it in some manner magnetism or magnetic force, and then rest contented under the delusion that the whole subject is made perfectly clear. Mr. Grimes states, with regard to the origin of mind:

"Mind came into the world when certain organized beings were in peril; it came to save them from death by directing their first feeble movements to the objects which they required. Here stood the plant and there stood the object which it needed, neither could approach the

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other. If they both floated in air or even in water, we could imagine that some mutual attraction might bring the plant and the nourishing object (food) together on magnetic principles. Perhaps, animal life did commence in such floating circumstances. Perhaps the magnetic principle did operate to bring the plant in contact with its object. . . . . My conjecture is, that the action of a species of magnetism between the plant and its food, produced a tendency in the plant to move its parts towards its food, and thus originated muscular motion and animal function."

Mr. Grimes does not appear to consider that his view of the origin of man is even a matter to be questioned. He says:

"It is certain that the ancestors of man and of the ape were once all reptiles, or else that a special miracle of creation has been interposed to prevent it, and to create man suddenly, in a manner which passes human comprehension. . . . . There was certainly a time when reptiles were the highest animals that existed on earth. It is probable that our ancestors were among these reptiles. At that time, the ancestors of all the different races of men and of apes may have been but one species. If the ancestors of the apes left the water, and first became permanent residents on the land, they would immediately assume a character peculiar to themselves. . . . . Ages afterwards, another portion may have left the water, and landed on a different shore, and became the ancestors of negroes. Still later and on another island, the ancestors of the white man may have landed; and thus, though all originally were one species, they have been so differently affected by the different circumstances which have operated on them, that they seem to be fundamentally unlike." p. 63.

Mr. Grimes has the highest respect for circumstances; he thinks that they not only "alter cases," but even create legs and feet.

"In regard to the forms of animals, I cannot perceive why an animal may not be of any imaginable form that circumstances may require, for circumstances are the sub creators of animal forms. *Aqueous circumstances create finny forms of limbs; and airy circumstances create feathers and winged forms of limbs; while terra firma circumstances create feet.*"

Mr. Grimes on Mermaids:

"It may be that the ancient idea of mermaids was not entirely fabulous; and a species of sea mammal as nearly resembling a chimpanzee as the seal resembles the dog, may have but lately become extinct, as many other animals have done. It is to be hoped that the future researches of naturalists may yet throw some light on this obscure question. It would be really delightful, if, in consequence of their labors, we should be able to determine with reasonable precision, all the various forms and changes which

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our race has undergone, in its rise from the ocean and the mud to the cultivated field and the classic temple. . . . . Apes and men may have been alike when they both inhabited the ocean; but the apes degraded themselves beyond redemption by acquiring the habit of walking on their hands, as this circumstance prevented them from acquiring those arts which gave superiority to man, and enabled him to exist in cold regions." p. 143.

Our author's method of reasoning is beautifully shown in this extract:

"It is said, (I know not on what authority,) that the pelican has been known to pierce her own breast, to furnish nourishment for her young. This may have been true, also, of other animals; and if practised by one animal and then by its offspring for several successive generations, this would at length so far modify the constitution of the breast, as to originate the teats and mamma in one female; and from this one, all other mammalia of one species may have descended. This hypothesis is perfectly consistent with admitted principles of Physiology, for it will not now be denied, that the changes produced in one generation are transmitted to the next by hereditary descent." p. 105.

With regard to the difference in the size of animals, he thinks it is wholly dependent upon the amount of nourishment obtainable by the animal.

"If you ask me why the mouse and the ox became thus different in size, I would venture the suggestion that originally all vertebrate animals were of one size, but that some have been, for millions of years, limited in the quantity of nourishment, so that, of course, they were limited in the capacity of receiving functional stimuli; while others have been surrounded with both nutritive material and functional stimuli."

It would be an interesting question to decide whether mice, shut up in a granary, could ever, by such means, be converted into rats; and, also, whether we could reasonably expect to obtain a breed of cattle by a further continuation of the same process.

Mr. Grimes has evidently not much respect for revealed religion; natural religion meets with still less favor at his hands. The principle argument depended upon by theologians, is the perfect adaptation to end manifested throughout creation. He says:

"There is then a continual attrition of every thing by its neighboring things, so that each tends to conform to its surrounding tormentors. The most perfect conformity must always necessarily be produced; this is denominated *adaptation*, and is held up to the ignorant as a sort of

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miracle, though in reality, it is the necessary consequence of a very simple operation.''

We have not thought it worth while to extract anything from the portion of the work, relating to phrenology. He, there, becomes like nearly all writers upon the subject, utterly wild and nonsensical. Having learnt the anatomical titles for certain portions of the brain, he distributes the pleasures and passions, the virtues and vices among them in a truly phrenological manner. Had he confined himself to that so-called science alone, his book would not have been worth noticing, as the injury it could have done would have been but slight; but by connecting it with the real sciences, he has produced a compound simply nauseating to those acquainted with true philosophy, but poisonous to the young and ignorant.

The Microscopic Anatomy of the Human Body in Health and Disease, illustrated with numerous drawings in color. By ARTHUR HILL HASSALL, M.B., &c. *With additions to the text and plates, and an introduction containing instructions in microscopic manipulation.* By HENRY VANARSDALE, M.D. In two vols. New York: S. L. & W. Wood. 1855.

We expressed a very favorable opinion of this work upon its first appearance, and shall now content ourselves with saying that it is pre-eminently the best illustrated microscopic human anatomy that is accessible to us in this country. The able introduction by the editor, and the numerous and admirable plates added to the American edition render it, in our opinion, far superior to the English one. We consider it, in every respect, a most creditable work to all who were concerned in its publication.

Human Physiology: Designed for Colleges and the higher classes in schools, and for general reading. By WORTHINGTON HOOKER, M.D., Professor of the Theory and Practice of Medicine in Yale College, &c. *Illustrated by nearly* 200 *engravings.* New York: Farmer, Bruce & Co. 1854.

The above volume is stated by the author to be designed for the family as well as for the school. He very truly observes that the same clear and full instruction is needed in both instances;

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the same requirements for information existing in both. Not seeing any reason, therefore, why a physiological work for the people should differ from one written for the school, he has composed his little treatise for the edification of both interests.

The book has THREE PARTS. The first considers organized and unorganized substances; the distinction between animals and plants, and man in his relations to the three kingdoms of nature. The 2d part is devoted to the consideration of the structure of man, his various functions, his formation and repair, and to cell life. The 3d part discusses the nervous system, the bones, the muscles and their language, the voice, the ear, the eye, connection of the mind with the body, differences between man and the inferior animals, varieties of the human race, and life and death.

The subject of "Reproduction" is very properly omitted.

The chief aim of every elementary treatise should be to present a clear and correct outline of the subjects of which it treats. Well established principles only should be inculcated; and the materials by which these are sustained should be judiciously selected. The present work possesses these merits in a very high degree. Like every thing else which has emanated from the pen of Dr. Hooker, it is characterised by sound judgment and good taste. The style, which is that of the lecture room, is clear and agreeable. We take great pleasure in recommending it as a most useful work for the purposes for which it was intended.

The Transactions of the American Medical Association, Vol. vii. New York: Chas. B. Norton. 1854.

The above contains 200 pages less matter than its predecessor. There are but two illustrations in it, one of which is colored, a map. The present committee of publication must have had a comparatively easy time of it.

We shall take another opportunity of examining its contents.

Diseases and Injuries of Seamen, with remarks on their Enlistment, Naval Hygiene, and the Duties of Medical Officers. By G. R. B. HORNER, M.D., Surgeon U.S.N., &c., &c. Lippincott, Grambo & Co. 1854.

Several chapters of the above treatise have already appeared in the pages of this journal. To our readers, therefore, it will

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suffice for us to say that the style and matter of the concluding essays render them in every respect worthy of their predecessors. Though the work is more especially designed for the benefit of those "who are novices on board ship," we are much mistaken if even veteran tars will not be entertained by its perusal.

The Physician's Visiting List, Diary, and Book of Engagements. Lindsay & Blakiston. 1855.

The experience of the last two or three years has satisfied us that the above is a most valuable *vade mecum*. Physicians will find that it will add greatly to their convenience and advantage to possess a copy of it.

THE MEDICAL EXAMINER.

PHILADELPHIA, JANUARY, 1855.

SALUTATORY.

With this number opens the eighteenth year of the Examiner's existence, and the second of our duties as its Editor; duties which were assumed with diffidence and mistrust of success, but with the earnest desire to do all in our power to render the journal a welcome guest to its readers. In this object of our wishes we trust that we have not altogether failed, and at this season, rife as it always should be with high aspirations and good resolutions, we indulge the hope that this year's labors may earn for it even a greater value than it has already long enjoyed. We gratefully acknowledge our indebtedness to those gentlemen who have so largely enhanced the interest and usefulness of its pages by their valuable contributions, and respectfully solicit from them and others a continuance of such support.

CLINICAL INSTRUCTION.*

Of all the preliminary branches of medical education requisite to fit the student for his future duties as a practitioner, none should sustain a

*We had the pleasure, after writing the above, of hearing the very able and eloquent address of the President of the Philadelphia County Medical Society, Dr. Thos. F. Betton. In connection with other matters considered very reprehensible by Dr. B., the College clinics were severely commented on; our readers will do well to procure a copy of it.—EDITOR.

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higher rank, in his estimation, than that of clinical or bed-side instruction. It is the great instrument for training him to future usefulness. To be able to recognize the different aspects of disease, to know when interference is unnecessary, if not hurtful, to know how to wield the various appliances and resources which science has so amply placed in his hands, are qualifications which he can only acquire through attentive observation, patient industry, and practical familiarity with disease. No lectures, however able, no amount of reading, however great, can ever supply the place of such experience to him. He may, it is true, when transformed by his diploma into a physican, go forth to his calling without such knowledge; but if he have a right sense of the awful and sacred responsibilities entrusted to him, and be actuated only by such motives as should influence the honest practitioner, how humiliating will frequently be the sense of his own incompetency, how deep and sincere his regret that he was denied or made no use of such advantages during his student life.

There are two systems now in operation in our large cities for affording information to the student of medicine—Hospital clinics and College clinics. The student who takes the hospital ticket, visits it twice weekly, the two hours of each visit being equally divided between surgery and the practice of medicine; where the class is too large to be admitted into the wards, lectures and operations take place, instead, in its amphitheatre, such cases as are required by the physician or surgeon being successively brought in there. It is much to be regretted that the large size of classes in this country renders it generally necessary to give this instruction in the amphitheatre, rather than in the wards. It must also be allowed that Hospital instruction bears too small a proportion to didactic teaching. Insufficient, however, as such instruction is, it possesses advantages which can never be obtained by any other mode, the student being afforded by it the opportunity of seeing *acute* cases of disease, fevers, phlegmasiæ and recent accidents, the staple of what his future practice will mostly consist; of following a case until recovery or death takes place, and in the latter instance, of having the advantages of the autopsy.

The other plan of clinical instruction, which, in comparison with the one just described, may be termed the modern system, has also two hours devoted twice weekly, in the College edifice, for the same purpose. The difference between the two being that, in this latter instance, the medical cases are generally chronic, reside at their own homes, and may or may not call for future advice. Such cases as require surgical interference are operated on before the class; and if severe, are then removed, either

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to rooms in the building, or else to some contiguous house. We would here observe, that the students of some institutions avail themselves of both of these plans of instruction. Where there is no requirement, however, for a hospital certificate for graduation, as is the case with some Colleges, but few of their pupils attend the hospital, the great majority naturally contenting themselves with their own College clinic.

The objections just urged against the hospital plan—excessive size of the class and infrequent attendance—are equally applicable to the College plan of clinical instruction. In addition to these objections, there are other evils appertaining to it, sufficient, we think, to justify the alarm, if they do not deserve the reprobation, of the whole profession. The nature of these evils, which pertain chiefly to the surgical clinic, and from which the student, the patient and the character of the profession are all liable to suffer, we shall now briefly discuss.

It is, we believe, acknowledged that nearly all students prefer the practice of surgery to that of medicine. Its points of interest are more prominent, it appeals more to the senses, and calls less upon the reflective faculties, than do the invisible, complicated and often obscure operations of internal disease. It is also more exciting. The polished and glittering knife, the well-filled tray, the resolute and self-reliant operator, the prostrate patient with his cries of agony and flowing blood, and finally the triumphant result, present a tableau, which, repugnant though it may be, has a terrible fascination for the young beholder. Is there no fear, that, in the excessive prominence and frequency of these displays, operative surgery, the most subordinate of all the branches of that science, may obtain an importance in the minds of students to which it has no legitimate claim; which it has been, in fact, the hope and study of modern science to prevent? Do not such exhibitions cultivate a taste for the knife, to the exclusion of more correct surgical principles? May not their frequent exhibition, also, render the tender mind of the young student callous and indifferent to the sufferings of his fellow creatures? Is not, in fine, the noble science of surgery degraded, rather than elevated, by the undue importance attached to such displays?

These are questions which we shall leave to the hearts and understandings of our readers. We would not be understood as denying that some information may be obtained by even distant inspection of operations. The question is, whether these, when placed in the foreground of clinical instruction, are not calculated to produce most erroneous impressions upon the mind of the students. The student is not, however, the only sufferer by this system; it is very possible that the patient may, also, be

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injuriously affected by it. Is there no temptation, for instance, for the surgeon to operate immediately whether the subject is in a suitable condition or not, for fear that some rival establishment may get the case; or when such interference is not feared, and the patient is secured, that he may sometimes be kept waiting a long time, and until a more favorable opportunity for display may have arrived? We have heard of such instances. May not the natural desire, also, to render the clinic interesting, induce the surgeon to perform operations, which in his private practice he might consider unadvisable? Professors are not infallible. They are but men, with judgments very apt to be influenced by their interests; quite as prone, also, when running a race of competition, to forget everything but the excitement of the chase.

Serious as are the objections we have just stated, sufficient in themselves alone to condemn the whole system, they are as nothing in comparison with the injurious effects exerted and reflected by it upon the character of the profession at large. When those who hold the keys of our temples, the arch-dignitaries of our noble calling, to whom are entrusted the high responsibilities of educating the characters as well as the minds of their pupils, whose honors should be like Cæsar's wife, above even suspicion, descend into the arena with tricksters and charlatans by advertising their lists of cases, treated and operated on in their several institutions, by performing operations gratuitously upon those who have no claim for such charity; by offering inducements, direct or indirect, to influence patients to submit to the knife, which they would be ashamed to make use of in their private practice, and by setting in motion every available means to obtain cases for their clinics; can it be expected that the lesser lights of the profession should preserve their honor and integrity unsullied? Will they not, also, vaunt the number of *their* cases, the magnitude of *their* cures? May they not, endorsed by such high authorities, employ dishonorable and improper means to obtain notoriety and practice, and plead before the bar of conscience, the examples set before them? Is it a wonder that charlatanism should prevail throughout the land, or that we should be gradually sinking in our own and the community's estimation? Is there no fear, have we no right to fear such consequences?

Another serious and frequently urged complaint against this system, is that it almost entirely precludes the young practitioner from obtaining that portion of operative surgery, which would otherwise legitimately fall to his share. It is but natural, that the poor and persons in moderate circumstances should prefer the services of him whose reputation and

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abilities are well known, to those of any young aspirant, however able and well prepared. And thus the veteran professor, receiving his pay by the clinical exhibition of the case, virtually and in reality underbids his younger rival. We do not mean, of course, to detract from the merit of services gratuitously rendered from motives of charity, but the case is widely different when the surgeon receives his remuneration not exactly, it may be, in money, but in a coin perhaps even more valuable to him. The class of cases to which we have alluded, would not, under other circumstances, compensate the surgeon of eminence for the time he would be obliged to devote to them. Under the existing state of things, however, the young man who is desirous of obtaining a reasonable share of this practice, discovers that the competitor who enters the lists with the *most* ardor against him, and who not only accepts willingly all such cases, but who leaves no stone unturned to obtain them, is actually at the very head of the profession. Such monopoly, we need not say, effectually closes the door against the young practitioner.

Such are the legitimate fruits of the present system of College clinics; alike mischievous to the student and discreditable to the profession. The question is, what is to be done under the circumstances? In laying down any scheme of medical education some regard should be paid to the established usages and forms which the necessities of our position have forced upon us. Our requirements should not, therefore, be utopian. Let us return to the old-fashioned, but respectable plan of hospital instruction. Let every institution in the country, empowered to grant a degree, demand a hospital certificate of its pupils. Let the hours now devoted to the College clinic be added to those already given at the hospital, thus doubling the opportunities there afforded the student, without any additional loss of his time of attendance upon lectures, and finally, let two hours be set apart weekly to witness post-mortem examinations. Let these changes take the place of the present disgraceful and incompetent plan, and we have every reason to believe that the reform will be an advantageous one to the whole profession. We distinctly disclaim the imputation that our remarks are directed against either particular institutions or individuals. They have a wider scope. As regards the Faculties of our own city, we can bear willing and cheerful testimony to their general high character. Among them are many gentlemen whose attainments, elevated professional standing, courteous demeanorand noble liberality have won for them the respect and love of all who know them. As lecturers, also, in their several branches, we believe that, as a class, they are unsurpassed anywhere. These circumstances,

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however, but add to our regret that we cannot exempt any of them from the stigma which we think to be deservedly attached to every one who is connected with this system. They should reflect that no plea of self-preservation, no desire to outstrip a competitor, can ever absolve them from their responsibilities for the proper use of the powers entrusted to them. Would we could say that they duly felt their obligations. Would that we could say that the bright legacy of confidence and respect bequeathed them by their predecessors was still untarnished.

We have dwelt at some length upon this matter, as we think it is one connected not only with the rights of students, but with the honor of the profession. We shall not pause to enquire into the motives which prompted the introduction of the College clinic, nor upon whom the odium of its origination rests; neither shall we attempt to investigate the degrees of criminality of different Institutions in this matter, but shall merely add, that, did we believe that it was a necessary evil, the result of circumstances over which there could be no control, we should have spared ourselves the trouble of making these remarks. When we shall have heard that any appeal has been made to the managers of our numerous hospitals, or that any other measures whatever have been taken to increase the present means of accommodation for the student, then, and not till then, will we believe that the College clinic is a necessary evil, and not a mere advertisement,—whose chief results have been to dazzle and ensnare the medical student.

The following extract from "The Address to Students," by the editor of the London Medical Times and Gazette, shows the high importance attached abroad to Hospital Instructions. We commend it to the reflection of our readers.

"The question which, after entry on Hospital studies, will most engage the attention of the zealous student will be as to the relative amount of time to be devoted to the wards, to the lecture-room, and to private reading. On this point, the regulations of the Examining Boards are explicit, requiring certificates of attendance on practice during the whole period of study. An opinion fraught with the most mischievous consequences has, however, got about, in favor of a division of the period, and the devotion of the latter part only to the acquisition of practical knowledge. It is customary to hear that 'the first year's man is not expected to attend Hospital practice,' 'that he has enough to do with his lectures,' etc. Unless they are intending to devote to educational purposes a much longer series of years than are usually so spent, we cannot do otherwise than urge upon our young friends not to listen for one moment to such advice. Out of the three or four years within which residence at a Medical school is ordinarily comprised, not a single day should be allowed to pass without some hours of it being devoted to

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attendance in the wards. It is there only that the student will learn to estimate duly the relative importance of the different subjects for which his attention is asked; it is there alone the real fitness for the duties of after-life is to be obtained. The published views of Dr. Latham are well known. We quote the following from no less an authority than Dr. Graves:—'Five or six years' attendance on an Hospital will be little enough to qualify you to enter with propriety and confidence on the discharge of your Professional duties. Bear in mind, gentlemen, that when you come to treat diseases, you approach the bedside as Physicians or Surgeons, and not as chemists, botanists or anatomists. This is the character in which you are to appear; and to the acquisition of knowledge which will prepare you for the discharge of its duties you ought to apply your chief attention.' In another part of the same lecture Dr. Graves adds:—'I would not be understood to depreciate any department of human knowledge. Far be it from me; besides the attempt would be useless. But I am anxious that you should concentrate all your energies on the proper objects of Medical pursuit, and devote the largest share of your attention to those acquirements which render you good Practitioners." The student may probably object to the recommendation to begin Hospital practice at once, that, without a knowledge of anatomy and physiology, he is at a loss to understand the diseases which come before him; and that, while ignorant of the principles of therapeutics, the cures he sees made teach him no useful lessons. To this we answer, that the attempt to supply knowledge before the need of it has been felt is always attended by much waste of labor. It is far better, for instance, that, coincidently with the acquisition of anatomical details, the practical importance of those details should be strongly felt, than that they should be esteemed only as dry, unproductive facts. The memory requires all the assistance which association of ideas can be made to give it. Who has not experienced how faithful has been his retention of any piece of knowledge for which he had long sought, or which was supplied just at a juncture when he was capable of perceiving its full weight? Just so it is with the light afforded by anatomy and physiology to him who in his daily study of disease is puzzled for the want of it. But, setting aside the advantage thus gained in respect to the aptitude for learning these sciences themselves, the experience accumulated, the training of the perceptive powers, and the acquisition of tact, which are consequent on constant Clinical work, will abundantly reward for its prosecution, even under some disadvantage as to imperfect knowledge of preliminaries.

MEDICAL NEWS.

HULLIHEN'S EAR SYRINGE.—We have already more than once invited attention to this admirably simple and efficient little instrument. We do so again for the purpose of apprising our medical friends that it may be obtained at the pharmaceutical establishment of Mr. Henry C. Blair, of this city, who has undertaken to furnish it in the most

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approved form, and has had it very conveniently put up in a neat cylindrical box, for being carried about and shielded from the dust.

We can strongly recommend this instrument to both practitioners and invalids as a most desirable substitute for the ordinary syringe and basin. Even as a self-injector, in the hands of an intelligent patient, under the direction of a medical attendant, it must be regarded as an invaluable saver of trouble and annoyance to both parties, and should be considered as indispensable to each individual requiring such manipulation for his ears as a special tooth-brush is for the daily cleansing of his teeth. There is another virtue in Dr. Hullihen's invention, which, in these trading days of multiple adjusters, supporters, trusses, et id omne genus, entitles it to signal admiration and encouragement:—it is not encumbered with a patent.

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American Medical Association.—The eighth Annual Meeting of the American Medical Association will be held in the city of Philadelphia, on Tuesday, May 1, 1855.

The Secretaries of all Societies and other bodies entitled to representation in the Association, are requested to forward to the undersigned correct lists of their respective delegations *as soon as they may be appointed;* and it is *earnestly* desired by the Committee of Arrangements that the appointments be made at as early a period as possible.

The following are extracts from Article 2d of the Constitution:—

"Each local Society shall have the privilege of sending one delegate for every ten of its regular resident members, and one for every additional fraction of more than half of this number. The faculty of every regularly constituted medical college, or chartered school of medicine, shall have the privilege of sending two delegates. The professional staff of every chartered or municipal hospital containing a hundred inmates or more, shall have the privilege of sending two delegates, and every other permanently organized medical institution of good standing shall have the privilege of sending one delegate.

"Delegates representing the medical staff of the United States army and navy shall be appointed by the Chiefs of Army and Navy Medical Bureaux.

"The number of delegates so appointed shall be four from the army medical officers, and an equal number from the navy medical officers."

The latter clause, in relation to delegates from the army and navy, was adopted as an amendment to the constitution at the meeting of the Association, held in New York, in May, 1853.

Francis West, M.D.,
One of the Secretaries, 352 Chestnut st., Philadelphia.

The medical press of the United States is respectfully requested to copy the above.

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Obituary.—The announcement of the death of Dr. Golding Bird, at the early age of thirty-nine years, will, we feel assured, excite a very general feeling of regret throughout the profession of this country. Dr. Bird was very highly appreciated here. His admirable work on "Urinary Deposits," which opened an almost entirely new field for research to the physician, attained at once a most brilliant success, and is still regarded as the highest authority upon the subject.

For some years previous to his death, Dr. Bird had suffered from disease of the heart; a short time before that event, he had an attack of hæmaturia, which soon "became associated with other and unerring evidence of renal calculus." This was followed by pyelitis, which ended his career on the 27th of October.

It is with much regret that we have also to announce the death of Prof. Edward Forbes, of the University of Edinburgh. This distinguished naturalist died on the 18th of November, in the 39th year of his age. It is not too much to say that science has not lost a nobler son during the present century; and there are none who enjoyed the advantages of his teaching or the honor of his friendship but will deeply feel the calamity which has befallen them. At a very early age, when a student in the University of Edinburgh, he gave strong evidences of talents of a very superior order. The Botanical Society of Edinburgh—one of the most flourishing scientific bodies in Great Britain—owes its origin to the late Professor and a few of his fellow students, more than one of whom were his late colleagues. After delivering a course of extra academical lectures in natural history he proceeded to the East, as naturalist to a scientific expedition. To this expedition are due not a few important contributions to science, and, we regret to say, to it we have to attribute his early death. Returning to London he was elected to the chair of Botany in King's College, which he filled with honor to himself and advantage to the college. The Geological Society acknowledged his high merit by electing him to every honorary office which it could confer; and, on the establishment of the School of Practical Geology and Designs, he was at the head of the Palæontological department. Last April, on the death of the venerable Jameson, Prof. Forbes, to the delight of all, had the appointment conferred on him; and our readers will remember with pleasure the extracts that we gave, in this journal, from his introductory lecture. In May he commenced the usual summer course of lectures. Though suffering from disease, he again opened his class on the 2d of November, but could only continue for six days. He died after nine days' illness, leaving a blank in the University which it will be difficult to fill up.

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RECORD OF MEDICAL SCIENCE.

On Physical Diagnosis in Fevers. By E. A. PARKES, M. B. Lond., L. R. C. P., Professor of Clinical Medicine, University College, London.

Typhus and Typhoid.—Dr. Parkes, last week, after describing all the familiar symptoms of typhoid and typhus, went into considerable length as to the difficulties of diagnosis. Occasionally we have local manifestations of disease of such severity (he observed) as may lead us to overlook the nature of the disease altogether. We may treat cough, dyspnœa, bronchitis, in a word, with all its various phases, and yet the disease be typhoid fever; other times, diarrhœa of a most troublesome kind is persistent—indeed many deaths are registered in London as deaths from diarrhœa, but they are nothing more or less than deaths from typhoid fever. Yet, if a correct examination were made, and the history of these cases made out, they would give us the tenderness of the iliac fossa, the rose-spots I have just described as so characteristic of typhoid, and in fact all the progressive conditions of this diseate. Again, we may have nervous symptoms predominant—an ataxic form of typhoid; and here you will find very great difficulty indeed in the diagnosis. These difficulties are not attended to sufficiently in practice.

Fourthly, we may have a still more troublesome and insidious form of typhoid, attended with weakness and weariness, excessive thirst, no shivering; the patient has no very marked symptoms of any kind, yet suddenly dies of perforation of the intestine. All these difficulties of diagnosis should lead us more and more to study the disease, as only by seeing the entire features of the history of the case, can we come to understand really what it is.

We will now, as illustrations of typhoid, take one or two of the cases up stairs in the wards at present, and I will read to you from the case-book the history:—

T—— ——, aged 21, admitted September 30. Her previous history, as in all such cases, is a little deficient, as when patients are very bad in fever you cannot get that connected account you wish. She was born of phthisical parents; she has been very poor, and has suffered many privations. The disease first came on by vertigo, shivering, and, after the fourth day, profuse purging, with extreme weakness, loss of appetite, thirst; two or three days after, pain in the abdomen. Diarrhœa lasted fully a week, headache also continued for that time; muscular weakness and thirst not abated. She then sought relief in University College Hospital. (Dr. Jenner, who has described this disease, also saw her; these cases, in fact, are now very interesting.) The symptoms in hospital were first, on coming in, excessive heat and dryness of skin, as shown by the thermometer at 105° Fah.; flushed face; abdomen presenting the peculiar red-rose spots, disappearing on pressure, slightly elevated; in fact, the rose-spots we now recognize as so characteristic of this disease in contradistinction to the mulberry-co-

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lored blotches of typhus. She complained of frontal headache, with other nervous symptoms well-marked; tightness across the sternum, frequent cough, and, on stethoscopic examination, dry bronchitis; but no deeper-seated disease of either lungs, or chest generally; the actions of the heart quite normal; the pulse, I should have said, so high as 116. Careful palpation over the liver detected nothing wrong; the same remark applies to the opposite side, at the angle of the large intestine and spleen. She had, as many of you will remember (I dwelt upon it at the time,) excessive tenderness over the abdomen, and more especially in the right iliac fossa; there was marked anorexia; the stools were liquid, yellowish, granular; the tongue large, and red at the tip, moist, not at all the tongue of typhus. You will remember, we have seen all these symptoms in more than one other case to-day also, as we were going round; they are very worthy of study, as so often met in medical practice.

As this subject of physical diagnosis in fevers is one in which I wish to exercise you, as it is, in fact, in practice in England, one of very eminent usefulness, and, in London, a matter in which at any moment you may be called upon to put in force, we will skip now from this part of the case, and come to the sixteenth day of the disease. And how are you to know it? You are brought to see this young woman, we will say, for the first time; the specific rose-spots are gone; she is laboring to all intents and purposes under severe bronchitic and chest symptoms (a chemist, or practitioner with a druggist's shop, has prescribed, and given cough mixtures perhaps, without seeing her); you find her respiration 30 in a minute, cough incessant, with some expectoration, nervous symptoms also well-marked; vertigo complained of, torpor, the eyes closed; she is delirious at night; she has also diarrhœa, pain over the abdomen, pulse quick, tongue furrowed and somewhat coated. Suppose, I say, you were called to such a patient, and moreover she is unable to give any account of the previous illness, how are you to make the diagnosis? There are only two ways—one the positive method, the other the method as it is called by "exclusion." The first is obvious enough, and will of course be more valuable to the practised eye of the experienced physician, who seizes the nature of the case at the first glance by a sort of intuitive knowledge of what typhoid really is. Now the method of diagnosis by exclusion—the plan of logic-writers, *per viam exclusionis*, in this and other diseases, is one, though not without disadvantages, yet of no mean importance. The first question you resolve in your mind will be—Is she or he, as the case may be, laboring under any of the idiopathic fevers? any of the exanthemata? No. Is it typhus? You make the same answer, as the eruption in ty-*phus* is as different from ty-*phoid* as scarlatina from measles. The eruption is absent in patients under 22 or 21 (this patient's age is about this.) Is it relapsing fever, so common in some years, as 1828–29? No. You ask yourself then, is it typhoid? Yes, nervous symptoms are marked, chest symptoms and diarrhœa also; the latter loose, granular, yellow, so peculiar to typhoid. You have soreness of the right iliac fossa; but

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then you say we have no rose-spots, and then you remember in at least 20 per cent. these rose-spots are not found. You must weigh and balance all these circumstances in your mind.

There are two diseases not unlike typhoid, to which I wish now to direct your attention, and which may be mistaken, and are mistaken for typhoid—one is *pyæmia*, so called, but it is quite untrue there is any pus in the blood; the other is *acute tuberculosis*. In pyæmia we have its positive indications absent, such as inflamed joints, diseased veins, &c.; we have septic materials in the blood in pyæmia, and a vital change perhaps in that fluid, but you cannot well mistake it for typhoid fever. There is another disease, however, which has been lately quite mistaken for typhoid—this is *acute tuberculosis*, in which, more or less, every organ in the body becomes studded with tubercles, and known in England and the Continent as "miliary tubercles," in the intestines, heart, lungs, and in the female, even in the uterus, and pelvic viscera. It is a disease common in younger patients. The disease, however, is extremely rapid, in three or four weeks usually coming to an end. It is attended with febrile symptoms, furred dry tongue; the symptoms, in fact, all like as possible of typhoid. It runs parallel, so to speak, with typhoid, but is not typhoid. Acute tuberculosis is often mistaken for typhoid, but the *rose-spots are absent*. In these cases the best observers will make mistakes. [We rather think the Editor of the *Medico-Chirurgical* here alluded to Dr. Lyons of Dublin and Dr. Stokes.] These tubercular deposits are miliary; they are uniform over the lung. We have no opportunity of comparing disease in one part of the lung with another; no stethoscopic indications, in fact, but those of bronchitis. Again, in this disease of acute tuberculosis, the head symptoms are always most intense, from deposit, in the shape of acute meningitis; the latter produced by deposit of tubercle. It is, in fact, something quite out of the common to find bad headache in typhoid; torpor is more common; and according as the disease advances, as a general rule, head symptoms are found to go away. You will find, also, if you study these cases in the wards of the hospital for yourself, that the pupils are dilated in meningitis, and that the special senses of hearing, taste, smell, &c., are all more or less affected. Deafness, for instance, is common; and, as I have just said, you will have most intense headache. Again, in one disease the abdominal symptoms will seize your attention; in the other, the head or chest symptoms. Diarrhœa is not so frequent in one; while in the other it is almost specific. In acute tuberculosis, you will not find the intestinal glands red and inflamed; in the other affection we are speaking of, it is very characteristic after death. The typhoid stools are liquid, yellow, or brown, containing albumen, and coloring matter of bile; this singular substance rendered mahogany-color by nitric acid. In hospitals I would advise you to familiarize yourselves with all these circumstances.

To sum up the whole matter, then, you will find that in these two diseases, confounded by superficial observers, we have a prominence, at the bedside, of head symptoms in one, and abdominal symptoms in the other. We have symptoms also of pyrexia in one. We may have "ty-

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phoid pneumonia," using these words now in a different sense, "typhoid" as an adjective; with all the other differential signs indicated. Then bad influenza, with capillary bronchitis, may also be mistaken for one of these diseases, purulent meningitis and a disease lately described in Ireland "cerebro-spinal meningitis."—*Dublin Medical Press.*

Dr. DEITERS *on the Use of Cubebs in Infantile Enuresis.*—This author has found cubebs more effectual than any other remedy in curing the incontinence of urine so common among children. This complaint may depend upon atony of the bladder, or on the presence of intestinal worms. In the former case the cubebs acts as a tonic, in the latter as a valuable anthelmintic. The medicine requires to be given in considerable doses; two pinches (*i. e.* a few grains or *Zwei Messerspitzvoll*) for infants, and a half a tea spoonful twice or thrice daily for children of a somewhat more advanced age. Its effect is speedy and permanent; and although occasionally it happens that during its administration the incontinence returns at periodical or irregular intervals, these recurrences gradually become less frequent, and eventually disappear altogether. To effect a radical cure, the author has often found it necessary to continue its use for a period of from three to eight weeks, and he has never observed any injurious effects from its administration.

Deiters observes that he has found the same remedy most efficacious in checking nocturnal emissions in case of spermatorrhœa.—*Edinburgh Monthly Journal, from Preus. Verein. Zeitung.*

Postmortem appearances of an old lady, of 94 *years, who had never menstruated nor borne children.* By A. K. GARDNER, M. D., Member of the National Medical Association, &c.—I was called, about midnight of the 1st of August, 1854, to see Mrs. H——, St. George's Place, attacked with cholera I found her to be an old lady, ninety-four years of age, and in other respects presenting some peculiarities attracting to a medical man. With the ordinary remedies, she recovered perfectly from this attack, but her constitution received a shock from which she never recovered. The day previous she had been walking about her room, and once subsequently she was found, in the middle of the night, sitting in a chair near her bed; with this exception, she never left it subsequently to this attack, except as lifted from it, and placed in a chair for a few minutes. Her appetite failed; and, after a long struggle, of several weeks, with the great conqueror of all, she finally yielded to his supremacy, Oct. 6th; and on the following morning, assisted by my friend, Dr. H. W. Brown, I made a post-mortem at 9 o'clock.

Mrs. H——, although twice married, never had any children. Her second husband was a widower, having a large family by his first wife. More noteworthy was the fact of her having never menstruated, either naturally or vicariously, and her absence of all sexual feelings and appetites.

During the greater part of her life she was troubled with dyspepsia, so that she never indulged in the pleasures of table. Pie-crust and cakes were tabooed articles to her. It was for this delicate condition,

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supposed to originate from the absence of the menses, that she was advised by her medical men in Massachusetts, where she lived, to marry. This she did; but this natural stimulant to the generative organs produced no local or general amelioration. She subsequently was married to her second husband, whom she also outlived, to act as a mother to a large family.

The entire absence of all sexual propensities, she herself attributed to her strong devotional character, being an attached and ardent member of the Baptist church. In character, Mrs. H. was somewhat acerb, and apt to look upon the moral delinquences of the young with a severe and unpitying eye. In life she was not wanting in activity and promptness, and conducted her household with a prudence and regularity somewhat noted.

The *postmortem examination*, the morning after her decease, disclosed no active or latent disease. The lungs were perfectly healthy, the stomach and other organs in like condition. The generative organs showed an uterus of usual size, and normal in its condition, except that the cavity of one-half was obliterated. The ovaries were both present, although much atrophied; but whether this condition was due to her advanced age or to an original condition, it was impossible to say.

Save a double-fracture of the hip, the last broken and united within a few years, and marked with the peculiar change in the bone, as seen in all the old, nothing else was noticeable.—*N. York Medical Times, December*, 1854.

Prolonged Gestation. Reported by J. J. CHISOLM, M. D., of Charleston, S. C.—Towards the close of July, 1843, I was requested to see a healthy, robust servant girl, aged eighteen, of good constitution, whose abdomen was rapidly enlarging, unaccompanied by pain or even uneasiness, caused from sudden cessation of her menses, five months previously. She considered herself dropsical, which alarmed her owner. Suspecting pregnancy, no treatment was instituted except mild laxatives to obviate costiveness, from which she was suffering.

Leaving the city for the summer months, I heard no more of the case, till my return, when I was requested to attend the girl in her delivery, she having confessed her condition when it could no longer be concealed. Towards the end of November, she having, as she supposed, arrived at full term, was attacked with cramps in the abdomen and pain in her back, which lasted an entire day, when they disappeared. In December, the pains and cramps returned with greater severity—so much so, that the patient was crying all the day of the pain. These, also, disappeared, and an interval of a fortnight elapsed, when, in the early part of January, a return of the pains brought on a tedious labor. The enormous size of the child induced me to weigh it, on the second day after birth, when, to my surprise, it weighed fourteen pounds—duplicates of its clothing weighed eight ounces, leaving thirteen and a half pounds as the net weight of the infant. Had it been weighed immediately after birth, it would have been heavier, as it had several copious evacuations and had taken no nourishment.

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The case is interesting, from the circumstance of gestation having been prolonged nearly two months over the time, dating from the first appearance of cramps and pain in her back, in November. This is also corroborated by her previous report of suspension of menses, in March, which she attributed to taking cold, and still strengthened by the large size of the child—the parent being rather below the medium stature.—*Charleston Medical Journal, Nov.* 1854.

The Behaviour of the Pelvic Articulations in the Mechanism of Parturition. By Dr. Matthews Duncan.—In the guinea pig, there takes place at the time of parturition a very considerable separation of the pubic bones, the ligamentous tissue of the symphysis stretching in this small animal to the extent of an inch, or even more. In the guinea pig, the motions of the iliac bones are analogous to those of abduction of the limbs. In the cow, such movements are absent. The symphysis pubis is consolidated by bony union, and consequently abduction of the iliac bones is impossible. But the sacroiliac joints become much relaxed, as also the sacrosciatic ligaments, and by these changes the ilia become extensively moveable upon the sacrum in an antero-posterior direction, the motions being analogous to those of flexion and extension in the limbs. The final result of these changes in the guinea pig and the cow is to enlarge the genital passage for the transmission of the calf; and these two animals present, respectively, characteristic examples of the two different sets of changes by which this result is obtained in different animals.

In the latter half of pregnancy in the human female, the soft tissues contributing to form the pelvic joints are found softened, as if by serous infiltration; and the joints are consequently relaxed. The softening of these tissues is accompanied by their increase of thickness, a change which will itself have, as a necessary consequence, the separation of the bones and enlargement of the pelvic circle. And this favorable circumstance, along with others connected with the motions of the joints, forms an important part of the explanation of some cases of delivery, by a simpler operative procedure than might at first have been considered necessary. Sometimes this thickening is to a very great extent, as in the cases of Madame Boivin and others, where the pubic bones were separated an inch or more.

The movements in the pelvic joints in the human female are the same as those occurring in man as well, only in a minor degree, as has been demonstrated by Mr. Zaglas. They may be described as consisting in the elevation and depression of the symphysis pubis, the ilia moving upon the sacrum. By the elevation of the symphysis (or projection forwards of the promontory of the sacrum), the angle of inclination of the pelvis is diminished, and the conjugate diameter of the brim is lessened to the extent of one, or even two lines; the corresponding diameter of the outlet is increased about twice as much. This different ratio of the effects of the motion upon the brim and outlet, results from the fact of the centre of motion being much nearer the promontory than the apex

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of the bone (in the second sacral vertebra). The promontory, therefore, will describe in its motions an arc of a smaller radius than the apex.

That the alteration of the dimensions of the brim and outlet by these movements is not insignificant, but the reverse, is a proposition which every obstetrician will confirm It only remains, then, to be observed, how these alterations correspond with the phenomena of the progress of the child in parturition. Now, in the erect position, the brim of the pelvis is in its enlarged condition, the symphysis pubis being then depressed, while the outlet is correspondingly contracted. In the course of the first stage of labor, while the head is pressing into the brim, the human female is generally standing, sitting, or lying on her back, or in an easy position. But as soon as the head has descended into the pelvis and infringed upon the sensitive vagina, then forcing efforts accompany the pains. These forcing efforts consist, in great part, of powerful contractions of the anterior abdominal muscles, the effect of which, especially the action of the two recti-muscles, will be to tilt up the symphysis pubis, thus throwing the promontory forwards, contracting the brim, and enlarging the outlet, and diminishing the angle of inclination of the pelvis. To all these changes, the position usually assumed by the female in the second stage of labor will contribute. For the simple bending of the body forwards (even in man), has for its effect the tilting upwards of the apex of the sacrum, and enlargement of the outlet. And, it is a curious fact, that a woman in her forcing pains, in the second stage, is found to draw up her legs, and bend her body forwards, thus inducing changes in her pelvis, which facilitate the advance of the child in that stage.

These motions of the pelvic bones in the human female agree with those taking place in the cow at the time of labor. The changes occurring at this time in the guinea pig, find their analogies in the altered condition of the symphysis in woman—changes which in her are generally only to a small extent.—*Edinburgh Quarterly, from Dublin Quarterly Journal of Medical Science, August*, 1854.

Glasgow Medico-Chirurgical Society.—Dr. Wilson, the President, introduced a discussion on Uterine Hæmorrhage, by detailing a case of Placenta Prævia, to which he had been called a few days ago, in consultation, and in which the vagina had been plugged before his arrival, with the view of arresting the flooding, which was considerable. He removed the plug, and found that the uterus had become gradually distended with blood. He introduced his hand, and soon completed the delivery by turning. The patient was doing well.* He gave it as his opinion, that, in most cases of this kind, it is better to allow the blood to flow from the vagina, than to use a plug, because the exact state of the case can then be known, while it is not unusual for the blood to continue flowing when the vagina is stuffed, and in these circumstances an

*Dr. Wilson has since learned that this patient died of phlebitis about three weeks after delivery.

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immense mass of blood may collect in the vagina and uterus. This he had seen in several cases. When the quantity of blood becomes alarming, or even before this, we should, without waiting till the os tincæ becomes very dilatable, proceed at once to effect delivery by gradually causing dilatation by the introduction of the hand. Some of these cases may be lost by delaying too long, in expectation of the natural efforts being sufficient to effect dilatation; but when we have reason to suspect that a great deal of blood may be lost before the *os* has sufficiently relaxed, we should not hesitate at once to have recourse to artificial delivery.

Dr. J. G. Fleming lately met with a case of placental presentation, in which the vagina was firmly plugged, the hæmorrhage being considerable, and the os uteri firm, and very slightly dilated. An immense quantity of blood certainly collected in the uterus. Still he was not sure if it was right to condemn altogether the use of the plug; at an early stage of labor, when the detachment of the placenta is small, and the os uteri firm and little dilated, he thought that the introduction of a plug was useful; there would not be so much danger of further flooding, in consequence of the pressure exerted on the detached piece of placenta.

Dr. MacEwan had seen cases of the kind. He alluded to some instances of relaxation of the uterus after delivery, in which the organ lay loose and flaccid, and even the introduction of the hand failed to produce contraction. These cases should be carefully watched; but, strange to say, hæmorrhage was not so usual as might, under the circumstances, be anticipated.

Dr. Bell mentioned a cause of flooding after delivery, which he had noticed not unfrequently, and which he described as a patulous and relaxed condition of the *cervix* and lower part of the uterus. This, he believed, might often be found even when the fundus had become quite contracted. He considered it necessary, before leaving any case of labor, to make a vaginal examination, in order to ascertain the state of these parts, as the feeling communicated to the hand placed on the abdomen might be fallacious, and would, in cases of this sort, give no indication of the risk of hæmorrhage. This generally appears at first as a mere trickling from the vagina, in which, however, clots are soon formed, and so plug it up as to prevent an external flow of blood, which, however, accumulates internally, distending the uterus, before the general symptoms of flooding make their appearance. He considered that many cases of internal uterine hæmorrhage originated in this somewhat insidious manner.

Dr. R. G. Maxwell said he had met with three cases of presenting placenta, in which it was necessary to turn the child. The os uteri was so far relaxed in all of them before he made the attempt, that he was enabled, with moderate persistence, to pass his hand safely beyond it, and turn with ease. All the women had good recoveries; the children were dead—two of them had been so several days. Two of the cases were premature—one at 6½, the other at 8 months. In such cases the patient requires to be watched, and care taken that she does not lose so much blood as to endanger life before an attempt be made to turn. We

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may suspect internal hæmorrhage after delivery if the woman begins to yawn, and shows other symptoms of approaching syncope. On placing the hand on the lower part of the belly, if we find a large soft tumor, we should immediately insert our hand into the uterus, remove all the clots of blood, and endeavor to produce contraction at the fundus.

Dr. James Watson agreed with Dr. Fleming, that there were some cases in which we might employ a plug, especially at the commencement of labor, and until the *os* had somewhat yielded; but that, whenever symptoms called for it, turning should at once be performed. As hæmorrhage from placenta prævia often occurred long before it was possible to dilate the os uteri with safety, the plug was, in such cases, indispensable; but where the hæmorrhage took place in circumstances admitting of such interference, immediate delivery was, in his opinion, as a general rule, the proper practice. The last case of the kind he had, profuse hæmorrhage occurred two months before the patient was actually delivered; he used the plug, but after some days discontinued it. The patient was kept in bed all that time, without being permitted almost to move a hand or foot, and was most carefully watched. She did not lose much more blood till the time of her actual confinement. Then it did return, and he immediately delivered her. The plug was not used after the first attack. She recovered without a fault.

Mr. Lyon said, observation had taught him that the error of practitioners was the postponement of interference; trusting to hope in place of acting, until exhaustion became dangerous, and interference only hastened death. Whenever manual delivery was at all likely to be required, the earliest possible interference, consistent with prudence, was the safest rule. He knew, from a recent conversation on the subject in the old Medical Society, he was supported on this point by the deservedly high authority of Dr. James Wilson. To the various species of hæmorrhage mentioned by the various speakers, he added that from laceration inside of the fourchette. He had seen an instance of this kind where the bleeding continued for hours, seriously exhausting the patient; and the true source of which he was led to discover from the blood *trickling*, not *gushing;* when ligature of the open mouth of the artery in a trivial lesion inside of the fourchette soon righted matters.

Dr. Ritchie, being in the chair, (Dr. Wilson having been obliged to leave the meeting some time before,) summed up as follows:—The remarks of the different speakers appear to me to have embraced all the ordinary varieties of puerperal uterine hæmorrhage which are known, and one which I do not remember to have heard of before—that, namely, mentioned by Mr. Lyon, where a considerable bleeding was maintained, after the delivery of the child, from a lacerated artery in the situation of the fourchette. With bleeding from the rupture of a varicose vein in the labium I am acquainted, but not with that from an artery. Of the forms of uterine hæmorrhage arising from a separation of the placenta, before the birth of the child, reference has been made to cases in which the insertion of the placenta over the orifice was nearly complete, and to those in which it was partial only; and of bleeding after delivery, ex-

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amples have been spoken of, in which it occurred from irregular contraction of a portion of the body of the uterus on the retained placenta, or, after the expulsion of the after-birth, on a clot, or on some still attached membranes; and also of hæmorrhage taking place, with a firmly-contracted fundus uteri, from relaxation of the orifice and neck of the organ.

In regard to the first form, or that where the bleeding appears in the latter months of pregnancy, from the necessary expansion of the orifice of the womb, the great practical difficulty is to determine the proper time to deliver. When the bleeding commences weeks before the natural period of parturition, is frequently repeated in moderate quantity, and your patient resides at a distance from you, and is not in labor, it is really not easy to decide. I am sure of this, however, that, should you resolve to delay, it is an unsafe practice to employ the plug. I have known death ensue from its use in such an emergency, a huge layer of clot being found, on inspection, between the uterus and the membranes. But, on the other hand, in a case in which delivery was resolved on, I have seen the child lost, on having been turned, from the powerful contraction of the circle of the orifice of the womb on its neck. I attributed this to the necessity of interfering early, although certainly the safe practice for the mother in every such condition is to do so. Let her be kept cool and quiet; use no means which will prevent you knowing the full extent of the bleeding; and deliver, whatever the state of the os uteri, whenever the strength of the mother begins to be obviously compromised. It will be needful, besides paying due attention to every other step of this operation, to dilate the orifice as largely as possible before you rupture the membranes. Of the second form of bleeding which has been mentioned, that where the insertion of the placenta is partial, the cases will always do well by our merely rupturing the membranes.

As to the instances of bleeding which happen after delivery, along with the irregular contraction of the womb, they commonly happen in hysterical women; and while one of the horns of the uterus is firmly clenched, its body is so relaxed that your hand passes with freedom as far upwards as the epigastrium. Such cases usually recover after the prudent extraction of whatever may have been retained; and it is a singular fact connected with them, that the bleeding which happens bears no proportion in quantity to the relaxation and flaccidity of the uterus.

With reference to the examples of bleeding after delivery, from relaxation of the neck of the uterus, which are met with along with a firmly contracted fundus uteri in the hypogastrium, they have been frequent in my practice, and are worthy of much attention. I have known practitioners, deceived by the hardness of the uterus, and the paleness of the discharge in this condition, leave their patients, as they supposed, quite well, and be summoned soon afterwards to see them suffering from extreme exhaustion, and even dying without the external loss of blood; and other women, in like circumstances, after faintness, &c., sometimes expel a large mass of clotted blood in the absence of the medical man. I am more solicitous about this kind of uterine hæmorrhage in my own

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practice than about any other; and besides allowing the whole transit of the child and secundines to be accomplished if possible by the mother, and then ascertaining the degree of contraction of the os uteri, I am in the habit of deferring the application of the bandage to the mother till the child has been dressed, and of retaining my hand in the meanwhile on the hypogastrium, and a cloth, accurately applied, to the pudendum. By these means the mother regains her strength, and I ascertain whether the uterus is in a doughy or contracted state, and whether stationary above the pubis, or rising at intervals above the umbilicus; the loss of every drop of blood also can be accurately measured, especially if the patient be kept on her side, and I am ready, without any hindrance from the newly-adjusted clothes of the woman, to interpose my aid when required. Now, in many cases, at least in the more delicate nervous women of large towns, even when these precautions are observed, you will be surprised by finding that, while the uterus in the hypogastrium continues firm and small, the cloths at the vulva are soaked with a rose-colored watery discharge, without any blood. This is sometimes profuse; and when it continues, the patient becomes dissatisfied, uncomfortable, and fidgety; and should she be neglected, exhaustion, accompanied by pain in the belly or back, jactitation, fainting, and death even may ensue. The explanation of all this is, that oozing from the vessels of the os uteri has occurred, and given rise to the formation of clot, which, while it gradually expands the cervix and vagina, also induces increasing discharge from the uterine vessels; and there is no safety to the woman but in the expulsion of the coagulum, either spontaneously, or by the cautious introduction of the hand into the uterus. The necessity of a cool atmosphere and a moderate allowance only of bedclothes, in the prevention and removal of this state, is also indispensable.—*Glasgow Medical Journal.*

Cholera in the Middlesex Hospital.—It is difficult, without appearing to exaggerate, to convey any adequate idea of the state of the wards during the first four days of September, or of the feelings of admiration with which the House Committee and Medical Officers viewed the noble conduct of all those resident in the establishment. While daylight lasted, the sunshine, though it revealed every minute detail, relieved, by its cheerfulness, some of the horrors of the sad and harrowing sight. But, as night closed in, the dim light shed by a solitary burner, and by the pale moonbeams that struggled through the windows, lent a still more ghastly hue to the livid features, the skinny hands, and the deeply-sunk eyes—in general nearly closed, as if in death, but sometimes bloodshot and glaring—of the poor patients, who were screaming in agony or groaning in mortal weakness, on every hand. Add to all this, the sobs and shrieks of new-made orphans and widows, and the clank of the bell, as in its ceaseless round it "vexed the drowsy ear of night"—and you have a very feeble representation of a scene before which many a stout heart might have quailed, and by a single glance at which not a few who presented themselves to be engaged as assistant-nurses, were

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scared away, without so much as entering the wards. Yet hour after hour, and night succeeding day, did all the members of the Hospital staff—Apothecaries and House-Surgeons, Matron and House-Steward, the few pupils who were in town during the College vacation, sisters, nurses, and porters—discharge, without for a moment shrinking from, tasks the most laborious and the most revolting.—*Edinburgh Monthly Journal of Medical Science, Nov.* 1854.

The Malabar Coolies.—Blood drawn from their veins will be found greatly deficient in fibrin, albumen, and coloring matter. Their nervous system does not betray that amount of sensibility to external impressions which is observed amongst other classes, and it is a remarkable fact, that a Tamalian will bear any amount of what is known as "shock to the system," without any detriment; while the slightest drain from the body—as a few fluid evacuations from the bowels, or rather copious discharge from an abscess—is sure to be attended with the most serious consequences. The whole limb may be severed in surgical operations, and scarcely a groan will escape him. A patient cannot manifest less sensibility to pain under the knife of the surgeon than a poor Malabar, when previously desired to "screw himself up to the sticking-point;" but the Tamal coolies, from a natural state of physical infirmity, are perfectly incapable of supporting anything like an exhausting influence. —Mr. DICKMAN *in Ceylon Miscellany.*

Medical News in Paris. Letter to the Editors from R. A. KINLOCH, M. D., of Charleston, S. C.

Mon. Malgaigne, claims some originality in his treatment of fractures; and in his ward, some weeks since, I certainly saw what, to me, was a perfectly novel procedure, in the management of a compound fracture of the leg. The case was one of fracture of both bones, at the most common point, a little below the middle, the fracture of the tibia being oblique. You are aware of the difficulty generally met with in these cases, particularly in managing the upper fragment of the tibia, so as to overcome the anterior angular displacement. The case in point I saw, for the first time, two or three days after the adjustment, which was as follows:— The limb rested upon a double inclined plane, the foot was attached to the foot bound, and there were also lateral splints and pads; no particular counter extension was made use of. But the novel feature in the dressing was the presence of an iron band, which, arching over the member a little above the seat of fracture, passed exterior to the lateral splints, and was secured firmly upon either side of the inclined plane. From the centre of this arch passed a firm steel pin, which could be depressed or elevated at pleasure, its upper two-thirds being wormed, and corresponding with the size of the hole in the band through which it passed. The lower and sharp end of the pin had been made to penetrate the soft tissues, over the flat anterior and inner surface of the upper fragment of the tibia, and was there *firmly fixed in the bony tissue itself.* Thus was this upper fragment kept firmly down in its position, and the angular

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displacement overcome. There was no evidence of swelling, or other appearances of inflammatory action about the point where the pin penetrated; and the patient assured us that it gave him no particular inconvenience. I watched the case with interest for some time after, but could discern no unfavorable result from the apparently heroic practice; the bone was kept admirably in position, and every thing seemed progressing favorably. The instrument of Mon. Malgaigne, for retaining in apposition the fragments of a fractured patella, has been long before the profession. It was natural to have supposed, *á priori*, that serious inflammatory action of the fibrous tissues covering the bone, and of the bone itself, might result from its use; yet experience has not only failed to confirm such an opinion, but has assured us that, in many cases, this instrument may be very successfully employed. It may be the same, with the means above described, for the management of fractured tibia. I apprehend that the cases are few in which such practice need be brought into requisition, still the method may be a good one to have in reserve. Pertinent to this question, and as an indication of sentiment in regard to this energetic surgery, I would mention having seen at Chariere's, a day or two since, a newly invented instrument for retaining in apposition the fragments of a fractured clavicle, the principle being precisely the ame as that of Mon. Malgaigne's, for fractured patella.—*Charleston Medical Journal.*

Stricture of the Urethra of Twenty Years' Standing; External Incision without Guide. By Mr. HENRY LEE.—This patient is a hair weaver, about forty years of age, of a thin, sickly look, and observed the first symptoms of stricture twenty years before his present admission. At that period retention of urine suddenly came on, when a personal friend of the patient, seeing the state he was in, shaped a piece of *whalebone from an umbrella* into the form of a bougie, and passed it up the urethra. Immediately after the operation, the urine flowed copiously.

The patient now remained well for three or four years, when symptoms of stricture again presented themselves, but not to such a degree as to cause him much inconvenience, the use of the catheter being, however, now and then required.

Four years before his admission here, the distress from the stricture became suddenly so great as to induce Mr. Guthrie, under whose care he then was, to divide the stricture with Stafford's instrument. After this operation, the patient passed his urine freely, for a short time, but soon the stricture returned, and he has been suffering from it more or less up to his admission. When first seen in the hospital, September 14th, 1854, there was pain in the lower part of the abdomen, and across the loins, and the bladder could be distinctly felt, through the parietes of the abdomen, to be hard and full. There was total inability to pass urine, which fluid only came in drops. The endeavors to introduce a catheter, both without and within the hospital, having proved useless, Mr. Lee had the patient brought into the theatre, passed down an instrument as far as the obstacle, and with no better guide than the end of the catheter, freely divided the urethra. When this perineal section

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was accomplished, No. 6 catheter was introduced into the bladder, and there retained for five days.

The urine a few days afterwards passed both through the wound and the urethra, and the patient after remaining several weeks in the hospital is on the point of being discharged. The wound is all but healed, and scarcely any urine escapes through the perinæum.

Mr. Lee, in a clinical lecture on this case, after giving a sketch of its principal features; and having pointed out the different kinds of unpleasant consequences following stricture, and the various methods which have been devised for the cure of coarctation, said:—

"The plan of dividing stricture by instruments passed down the urethra have been variously modified; sometimes an instrument of the shape of a trocar has been made to protrude from the end of a catheter, so as to perforate the stricture; sometimes the instrument used has been made in the shape of a lancet, and sometimes a long very thin knife has been passed down to the stricture upon a director. Another plan has lately been adopted in France, where an instrument could be introduced into the bladder. The instrument used resembles in construction a lithotrite, but the blades are capable of being separated from each other to the extent of about a quarter of an inch. The instrument is then introduced, and the blades suddenly separated, so as forcibly to tear open the stricture.

Now all these plans have the disadvantage, besides that of endangering the vitality of a portion of the mucous membrane of the canal, of not providing an escape for any portion of urine which may flow from the urethra through the opening which they make. Under these circumstances it has been proposed to make an incision in the perinæum, and to divide the stricture from without. This plan, of which I now propose to speak, has at least the advantage, when properly performed, of being free from the dangers arising from making false passages, extravasation of urine, and purulent deposits.

The cases for which this operation has been recommended are of three kinds:—

1. Where the stricture presents an extreme degree of irritability, and resents, by violent local and constitutional disturbance, any efforts to produce dilatation.

2. Cases in which the stricture, when dilated, rapidly contracts again.

3. Cases in which, after the dilatation of the passage, micturition is nevertheless painful, difficult, and uncertain.

To these three classes we may add a fourth, not admitted by some surgeons—namely, cases in which no instrument can be passed into the bladder.

For these affections a free incision of the contracted part of the urethra has been maintained to be the proper mode of treatment, and to be in fact required.

The mode of performing this operation, as described by Mr. Syme, is as follows:

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A grooved director is first introduced through the stricture, where this can be done, (and Mr. Syme is of opinion that, with care and attention, there is no stricture through which an instrument may not be made to pass.) The patient then being placed upon his back, at the edge of the table, with his legs bent, as in the operation for lithotomy, an incision, about one inch and a-half in length, is made exactly in the raphe of the perinæum. The whole of the thickened, indurated, and contracted texture is then divided upon the director, to the extent of an inch or two, or more if necessary. A No. 8 silver catheter is then passed into the bladder, and allowed to remain there for at least two, and not more than three days.

Great stress is laid upon the fact of the incision being made exactly in the middle line of the perinæum, in order to avoid the artery of the bulb which lies by the side of the canal.

The only sources of danger alleged to exist are hæmorrhage and extravasation of urine. But if the knife is kept exactly in the median line, the only vessels that are likely to bleed are the smallest branches of the superficial perineal artery, and the cells of the corpus spongiosum; the bleeding from these may be checked, should it be desirable, by placing a piece of folded lint between the edges of the wound, and applying the slightest degree of pressure for a few hours.

The liability to extravasation of urine after this operation, I will presently consider, reserving it for separate remarks, as I conceive the liability or otherwise to its occurrence forms the grand distinction as to this operation being admissible or not.

After the operation of perineal section, the catheter is tied in the bladder, and the patient put to bed. At the end of forty-eight hours the catheter may be removed. A full-sized bougie should be introduced once a week for three or four weeks, and then at more distant intervals, according to circumstances.

Now this operation, as I have described it, appears a very simple affair, and if this were all, there is little doubt which is to be preferred, the pain and inconvenience, (to say nothing of the danger of a stricture) or the simple operation of dividing a portion of the urethra on a grooved director. But, unfortunately, the operation has not been found to be one of such a very simple nature in its consequences, even where an instrument could be got into the bladder, much less in cases where no staff could be passed.

Mr. Syme, of Edinburgh, asserts that he has performed this operation a great number of times without any ill effects, excepting only some consequent symptoms of nervous irritation. But in other hands the most serious mischief has often supervened. Patients have been attacked with a shivering fit the day after the operation; there has been a quick, irritable condition of the pulse, accompanied, perhaps, by profuse perspiration, and want of sleep. These symptoms have continued, the patient's tongue becoming brown and coated, and, in a certain number of cases, the patient has died. On a post mortem examination, some purulent infiltration has generally been found about the neck of the bladder, or some secondary inflammation in other parts.

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Now how are we to account for such different results in the practice of various surgeons of equal skill? I believe that something like a solution may be arrived at by an attentive consideration of the description which Mr. Syme has given of the operation.

In the way in which he performs it, the only fascia concerned, as he says, is that which lies immediately under the integuments. In other words, he divides only the skin, superficial fascia, and the urethra. Now it is clear from this description, that all the strictures which he has operated upon have been situated anterior to the membranous portion of the urethra; for had he operated upon any stricture in the membranous portion of the canal, even though situated quite at its anterior part, he must have been in danger of wounding the deep perineal fascia as well as the superficial. Hence, then, arises a practical distinction of the utmost importance. When a stricture is situated in the bulb of the urethra, it may be divided from without, and any urine which escapes from the passage is sure to pass out at the external wound. But the circumstances are different when the knife, in passing along the grooved director or sound, perforates the deep perineal fascia, and wounds the urethra as it passes through this part. The urine which escapes from the passage may then lodge in the wound made in the deep perineal fascia, and a drop or two may become infiltrated behind this dense structure. It will there give rise to inflammation, and having no means of escape, will produce violent constitutional irritation. When once inflammation is established in the cellular tissue of this part, its products will permeate the areolar tissue, and may thus propagate the inflammation to the outside of the bladder, and the cellular tissue within the pelvis, thus giving rise to the abscesses and the purulent infiltration which I have mentioned.

But where the incision is confined to the superficial fascia, and to the bulb of the urethra, there is, as I have said, very little danger of any of these accidents occurring; and by choosing his cases, (as it were,) and confining himself to those in which the stricture is situated anterior to the membranous part of the urethra, Mr. Syme has met with the success to which I have alluded.

Hence there appear to be two classes of cases; those in which the stricture is situated in that part of the urethra corresponding to the corpus spongiosum, and those in which the stricture is at the anterior part of the membranous portion of the urethra. In the former situation, as far as our present evidence goes, the stricture may be divided with comparative impunity; in the latter, most severe and even fatal symptoms have followed.

But practically, it will be asked, how are we to know that a stricture is confined to the bulb of the urethra, or to any part in front of this? Where an instrument can be introduced, the point may be made out in this way, and Mr. Syme never operates unless he is able first to introduce an instrument into the bladder.

In the case to which I have drawn your attention, I was led to believe that I might with impunity divide the stricture, from the circumstance

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of Mr. Guthrie having divided it by internal incision before, without any ill effects. This proved to me, either that the stricture was confined to the bulb of the urethra, or, if situated farther back, that the surrounding parts were so consolidated by inflammation as to preclude the danger which might arise from infiltration of urine."—*Lon. Lan.*

Extraordinary Feat.—On Wednesday, at 4 o'clock, P. M., Mr. William Wheeler, "the celebrated Western Walker," commenced the task of walking one hundred and one consecutive hours; and, inasmuch as it was alleged that a similar feat was not accomplished, particular pains were taken by those interested that there might be no humbug in the present instance. The first night was passed very comfortably; and during the next night and day he evinced no signs of fatigue. On Friday he appeared to feel the effects of a lack of rest, and his limbs commenced swelling. He was watched closely that night, and at times his mind wandered, and he was unconscious of anything going on near him. The next day (Saturday) he recovered his wonted vigor, and, with the encouragement of his friends near by, seemed quite fresh. His limbs, too, which bore evidence of his endurance, improved in appearance, and the approach of last night was met with much confidence by himself and others. He continued to walk, but with difficulty. His constitution required all the stimulus that consistent with his safety could be given. He became delirious, and had to be guarded to prevent him leaving the plank, and, if possible, the room. On Sunday morning the swelling commenced again, and the day passed tediously. Large crowds visited him, which did much to cheer him on. In the evening the audience became literally packed, and at one time it was seriously proposed clearing the room for the purpose of giving the pedestrian air. At 9 o'clock and 9 minutes, it was announced by Dr. Rowell, his physician, that his time was up. He left the plank, and walked through the crowd with perfect composure. Three cheers were given for him, which were duly acknowledged. This proved that he was perfectly sensible, and which, under these circumstances, was looked upon as a strange occurrence. A carriage being in waiting, he entered it, and immediately fell into a sound slumber. On arriving at the destination of the vehicle, he awoke, and, with a firm tread, went into the house, and, after partaking of such nourishment as was provided for him, retired to bed. The only food or drink allowed him during the time of this extraordinary performance was beef tea, (very strong,) raw eggs, brandy, and wine. This is the greatest feat of the kind on record.—*New York Tribune, from San Francisco Paper.*

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Abstract of Meteorological Observations for November, 1854, *made at Philadelphia, Pa. Latitude* 39° 57′ 28″ *N., Longitude* 75° 10′ 40″ *W. from Greenwich.* By PROF. JAMES A. KIRKPATRICK.

1854. Nov.	Barometer. Daily Mean	Barometer. Mean Daily Range.	Thermom. Daily Mean	Thermom. Mean Daily Range	Dew Point 2 P M.	Rel. Humid. 2 P. M.	Rain.	Prevailing Winds.	General Remarks.
	Inches.	Inches.	Deg.	Deg.	Deg.	Hunds.	Inch.	Points.	
1	29.767	.047	60.2	5.8	45.7	.52		NW.	M. cl'r; aft. & ev. cl'y. *Th. hig'st* 69°.
2	30.030	.263	52.5	7.7	38.3	.52		W.	Clear.
3	30.033	.034	56.7	5.2	41.7	.49	0.150	(Var.)	M. clear; aft. and ev. cl'y; night rain.
4	30.239	.206	43.3	10.0	30.7	.48		N.	M. cloudy; aft. and ev. clear.
5	30.357	.115	32.7	10.7	26.7	.60		N.	Clear. *First Ice. Bar. highest* 30.369; *Therm. lowest* 27°.
6	30.023	.334	40.3	7.7	30.7	.48		SW.	Cloudy.
7	29.549	.475	48.7	8.3	40.0	.62	0.023	NW.	M. rain; aft. cloudy; ev. clear.
8	29.829	.280	45.7	3.0	32.7	.50		(Var.)	Clear.
9	30.110	.314	46.3	4.0	37.7	.56		SW.	Clear.
10	30.074	.080	52.7	7.0	50.3	.72		S.	Cloudy.
11	29.817	.258	63.0	10.3	62.7	.94	0.483	SE.	M. and aft. rain; ev. clouoy.
12	29.857	.071	58.3	4.7	57.7	.94	1.619	E.NE.	Rain all day.
13	29.724	.141	58.3	9.7	49.0	.67		(Var.)	Cloudy.
14	29.871	.147	40.2	18.2	30.0	.52		NW.	Clear.
15	29.541	.330	42.5	2.0	38.0	.77		(Var.)	Cloudy.
16	29.587	.116	40.7	1.8	24.3	.36		NW.	M. clear; aft. and ev. cloudy.
17	29.527	.123	44.8	3.2	36.0	.58		SW.	M. clear; aft. and ev. cloudy.
18	29.582	.135	46.2	5.0	35.3	.55		NW.	Cloudy.
19	29.728	.143	39.3	6.8	30.0	.52		NW.	Clear.
20	29.862	.134	38.7	1.3	29.3	.57		W.	M. clear; aft. and ev. cloudy.
21	29.980	.118	42.7	3.7	31.7	.49		SW.	Cloudy.
22	29.824	.122	46.8	4.2	41.0	.78	0.204	(Var.)	M. rain; aft. cloudy; ev. clear.
23	29.898	.086	45.8	3.3	41.0	.69		SW.	Clear.
24	29.462	.436	54.0	8.2	57.3	.97	0.781	SE.	Rain all day.
25	29.332	.212	52.0	5.8	41.0	.62	0.110	SW.	Cloudy; ev. rain; *Bar. lowest* 29.257.
26	29.663	.331	42.7	9.3	27.3	.40		SW.	M. clear; aft. and ev. cloudy.
27	29.940	.277	37.8	4.8	29.3	.57		SW.	Clear.
28	30.027	.087	36.7	1.2	31.7	.65		SW.	Clear.
29	29.870	.158	36.2	0.5	28.3	.56		W.NW.	Clear.
30	29.838	.082	38.0	3.8	27.0	.49		NW.	M. cl'y; slight snow; aft. & ev. clear.
Means for Nov. 1854	29.831	.188	46.1	5.9	37.4	.60	3.460	S. 85° W. 61—100.	
Means for Nov. 1853	30.157		47.1		42.2		2.320		
Means for Nov. 1852	29.919		42.2		35.2		6.050		
Means for Nov. 3yrs	29.969		45.1		38.3		3.943	N. 71° W. 45—100.	

The extreme range of the barometer during the month was 1.112 inches, and of the thermometer 42°.

The observations are taken at 7, A.M., 2 and 9, P.M., daily. The *daily mean height* of the Barometer and Thermometer is found by taking the mean of the three observations; and the *monthly mean* determined by adding together the daily means and dividing by the number of days in the month. The *mean daily range* is found by calculating the mean of the differences between the height of the mercury on any particular day and the day immediately preceding, at the corresponding hours. The *Dew Point* and *Relative Humidity* are calculated from the difference between the wet and dry-bulb thermometers at 2, P.M. The *Resultant of the Winds for the Month* is found by Schow's method. The Barometrical Observations are all corrected for temperature by being reduced to 32° Fahrenheit.

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THE

MEDICAL EXAMINER.

NEW SERIES.—NO. CXXII.—FEBRUARY, 1855.

ORIGINAL COMMUNICATIONS.

Case of Resection of the Right Elbow Joint for the relief of Caries and Anchylosis of the Joint; cured, with considerable motion at the Elbow. By HENRY H. SMITH, M. D., Consulting Surgeon to the Philadelphia Hospital, Blockley.

Terence ———, aged 16 years, entered the Philadelphia Hospital, Feb. 23d, 1854, in consequence of caries of the right elbow and anchylosis of the joint, consequent on a fall.

The disorder having existed for 18 months, and the arm been allowed to become anchylosed in the straight position, he was sent as a pauper to the Alms House and thence to the Hospital. After being in the house about eight months, he was presented to me at the commencement of my term of service in October. At this time, he was pale, anæmic and enfeebled by long continued disease and suffering, and exhibited symptoms of hectic fever; the elbow-joint was very much swollen, and the skin inflamed and thickened round the bend of the elbow, several ulcerated spots and fistulous orifices existing both on the front and back of the arm. On introducing a probe into two or three of these orifices, the bones were readily felt in a carious condition; there was also perfect inability to move the hand in pronation or supination, the least attempt at bending the elbow or pronating the hand causing him severe pain. As his right arm was thus rendered useless, and there was every

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prospect of his either dying of hectic fever or becoming a pauper for life, I decided on attempting to save the limb by resecting the diseased joint. Accordingly, on the 11th of Oct. 1854, after an appropriate preliminary treatment, I operated as follows, before the medical class in attendance on the practice of the house.

Operation. The boy being fully etherized by a mixture of chloroform 1 part, ether 3 parts by weight, was laid on his belly with his face inclined to the side of the table, and a stout, round pillow placed on the front of the elbow as a support to the portion to be operated on, as well as with the view of favoring the flexion of the fore-arm, after the section of the olecranon process.

The arm being thus steadied, an H incision was made over the joint on its posterior face; the flaps turned up, the ulna nerve dissected out of its trochlea, and held on the front side of the internal condyle, and the artery which accompanied it compressed at a point where it was wounded. Martin's* circular saw being then applied to the shaft of the ulna, the olecranon process was soon removed, and the whole joint being thus laid open and found to be diseased, both the condyles of the humerus, as well as the epitrochlea, were sawed off by the same saw. The head of the radius being also diseased, it was excised from the neck of the bone by means of large and strong bone-nippers. So little hemorrhage ensued on the operation that no ligatures were applied. The flaps were then loosely united by sutures, supported by a light bandage, and the boy placed in bed with the arm supported on a pillow in the semi-flexed position, the whole elbow being covered by cloths, wrung out of tepid water. At 8 o'clock, P. M., his pulse was 90, and, as he was suffering, 60 drops of laudanum were given to allay the pain.

Oct. 12th. Slept well, better than for many weeks; suffers but little. Ordered chicken-broth and anodyne pro re nata.

Oct. 14th. Removed dressing; suppuration commenced; ordered a light bandage to the part; omit water dressing; tinct. cinchonæ compos. ʒiv. per diem; chicken for dinner.

[* This saw may be found figured in Smith's Operative Surgery, second edition, plate 5, fig. 1, vol. 1.—Editor.]

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Oct. 16*th.* Dressed arm and increased the flexion slightly.

Oct. 18*th.* Applied an obtuse angular splint to the front of the arm; ordered to sit up.

Oct. 20*th.* Has his clothing on.

Oct. 24*th.* Applied a splint nearly of a right angle.

After this date, the wound was dressed daily, the angle of the splint being gradually changed to a right angle, and then to one which semi-flexed the arm.

Dec. 5*th.* Terence is now able to do without the splint, and has considerable motion at the joint, the wound being healed.

Jan. 15*th.* Terence can now move his elbow, so that his hand will traverse an arc of 40 degrees, and can pronate and supinate the hand quite well.

Remarks. The advantages of the operation of resection in this case are so apparent as not to require much argument, the saving of a right arm in one dependant on his daily labor for his support, being sufficient evidence of its value as a means of treatment in similar cases.

As a class, few operations are more strikingly illustrative of the progress of conservative surgery than those of resections, yet the number of instances reported in the United States of its application to the upper extremity are by no means commensurate with the cases which might have thus escaped amputation. After a careful examination of a very considerable number of American medical periodicals I find only the following:—one by Dr. Thos. Harris, of Philadelphia, in 1836; one by Dr. Gurdon Buck, Jr., of New York, in 1841, another in 1843, and a third one in 1846; and one by Dr. J. Pancoast in 1842. These cases, with the present one, making only six instances in which this operation has been published. In every case no serious symptoms supervened on the operation, and the patient was relieved of the exhaustion and suffering attendant on the disease, besides obtaining a comparatively useful limb.

The entire head of the humerus was resected by Dr. Hunt, of Washington city, in 1818, and a large portion of the same bone (its head) was removed by Dr. Pinckney, of the Navy, in 1846. When we compare this limited number of operations with the numerous cases of diseased joints that have required it, we must admit that resections of the bones of the upper extremity have

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not received the attention that the benefits conferred by the operation might naturally lead us to anticipate, and it is with a view of calling professional notice to this useful class of operations that the present case has now been reported.

On Dropsy after Scarlatina.

By O. C. Gibbs, M. D., of Perry, Lake county, Ohio.

Few diseases have more troublesome or a greater variety of sequelæ than scarlet fever.

Though the case may be a mild one, and the period of the fever and rash passed with safety, death may ensue from subsequent evils; or, if life be preserved, changes may be wrought in the delicate organism that may be seen and felt throughout the subsequent period of the patient's history.

When the rash declines, and the anxiety of friends is lessened, swelling, suppuration, abscess of the parotid and submaxillary glands may supervene, and the consequent irritation and purulent discharge may exhaust the weakened system beyond the reach of its feeble recuperative energies, and having outlived scarlet fever the patient may die of hectic. Coupled with or independent, as the case may be, of this glandular disease, may occur inflammation of the internal ear, with subsequent copious purulent discharge, resulting in hardness of hearing or deafness, which will hopelessly continue for the remainder of life.

The ear is not the only organ of sense liable to injury from these troublesome sequelæ. Chronic opthalmia may come on, continuing, perhaps, for months and years, with permanent impairment of the delicate organ of vision; or inflammation of the pituitary membrane may take place, with purulent discharge from the nostrils, resulting, perhaps, in ozœna or an unpleasant and obstinate derangement of this important organ of sense.

During the decline of scarlet fever, inflammation of the mucous membranes occasionally occurs, giving rise to bronchial, gastric and enteric diseases, which may continue for an indefinite period of time or early result in death. The serous membranes, also, are by no means exempt; pleuritis, peritonitis, and worse than all, meningitis, simple or tubercular, with their concomitant dangers to life, may result from the progress or decline of this affection.

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The catalogue of sequences is by no means complete; but the object of this paper was not to enumerate them or their dangers, but to give expression to the best received opinions upon the pathology and treatment of the more common and serious of them all, I mean dropsy, in those forms which succeed to scarlatina.

Dropsy, following scarlet fever, presents itself in two distinct etiological conditions. The first, most common and dangerous, has its origin in a congested or inflamed condition of the kidney. The second, less common and more amenable to treatment, owes its existence to anæmia.

1st. *Hydrops nephriticus*, or renal dropsy, may come on at different intervals after the commencement of the disease, of which it is a sequela; but, more commonly, within two weeks after the appearance of the eruption. It is usually preceded by two or three days of interrupted convalescence, indicated by impaired appetite, increased thirst, constipated bowels, scanty urine, dry and hot skin, and accelerated pulse. These signs of constitutional disturbance are accompanied by an arrest of the process of desquamation. After two or three days continuance, œdema of the face comes on, which usually awakens but little anxiety until, sooner or later, this puffiness extends to the hands and feet. These symptoms are accompanied by scanty and albuminous urine. The albuminous character, it is said, is not always present, yet upon this point there seem to be different opinions entertained. In mild cases, after a few days continuance of the above abnormal symptoms, the function of the kidneys is restored, the anasarca gradually disappears, convalescence is re-established and progresses without further interruption. In severe cases, in addition to the symptoms given above, pain and tenderness are felt in the lumbar region; the urine is very scanty, highly albuminous and frequently bloody; the œdema extends throughout the cellular tissue of the skin and lungs; the features become distorted and the limbs greatly swollen by the anasarca. But at this stage of the difficulty, the pectoral symptoms are usually the most distressing and dangerous. Cough, difficult and hurried respiration, accompanied with copious frothy expectoration, continue to harass the patient until death takes place, in consequence of the œdema of the lungs, or until these distressing symptoms

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pass away with the general anasarcous condition. The greater the œdema, the less the effusion into the serous cavities, and *vice versa*. Ascites, perhaps, is an exception to this. The relative frequency of dropsy of the serous membranes, is in the order named: Ascites, Hydrothorax, Hydrocardium and Hydrocephalus. These affections may occur either simultaneously or successively. I once saw a patient affected with œdema, on the subsidence of which, ascites was developed, subsequently hydrothorax, and finally hydrocephalus, of which the patient died. When effusion takes place into any of the serous cavities, the symptoms peculiar to each of these several dropsies are superadded to those given above.

In these cases, the energy of the system seems to be overwhelmed with the intensity of the diseased action, the pulse is very much accelerated and enfeebled, respiration is labored, the urine is not only very scanty but brown, or reddish brown, from sanguineous intermixture, and unless the kidneys are speedily restored to their normal function, with a corresponding abatement of the dropsical symptoms, death may take place from an increase of the pectoral disease; from the effects of effusion into some of the serous cavities; or from coma resulting from the poisonous properties of the urea retained in the circulation.

(*a.*) Of the *nature and cause* of that form of renal dropsy which succeeds scarlet fever, there has been expressed a diversity of opinion. It is highly probable that the congestion of the kidney, and the exfoliation of the epethelial cells, are as much the specific effect of scarlatina poison, as is the eruption upon the skin and the cuticular exfoliation.

It is said dropsy is more frequent after a mild than a severe case of scarlet fever; or, rather, is more likely to succeed those cases accompanied with but an insignificant eruption. The reason of this is apparent, if we admit the specific nature of the renal affection; for the more perfect the elimination of the scarlatina poison by the skin, the less the tax upon the kidneys. This view derives support, when compared with the reciprocal relation existing between the catarrhal and eruptive symptoms in rubeola. Every one knows that the catarrhal symptoms in measles, are as much a specific effect of the rubeolous poison, as is the eruption itself; and, if the rash is tardily or but imperfectly developed,

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the catarrhal symptoms are fearfully increased, and bronchitis or pneumonia is usually induced.

Most writers agree in considering cold the most common and prolific cause of effusion in scarlatina. But if the specific nature of the renal affection be admitted, then the albuminous character of the urine is not produced by cold.

Effusion will probably not take place, so long as the amount of the retained urea is within the bounds of the accommodating power of the system. If this be so, then anything that will diminish the activity of the organism or increase the amount of the retained urea beyond this accommodating power, becomes the immediate cause of the dropsical symptoms.

(*b.*) The *pathology* of this affection, it is not here proposed minutely to consider. From what has been said, it is apparent that we must look to the kidneys, would we find those pathological lesions which give rise to that form of dropsical disease now under consideration. An examination after death reveals the kidneys enlarged, generally darker and more congested than natural. Their surfaces usually present a pale and mottled appearance, which contrasts, in a marked degree, with the internal tubular parts of the cortical structure. The pelvis and infundibula are involved, generally, in the increased vascularity, but by no means uniformly so. Diligent microscopical researches have shown that the cortical portions are the first to give evidence of the morbid process, and more particularly, the urinary tubules. "This congestion," observes Dr. Behrend, "induces exudation and hemorrhage from rupture of the capillaries, both effusions mingling with the urine, which becomes of a dark chocolate color. By means of the exudation, the small vessels and tubuli of the cortical substance are in part obliterated, and in part compressed, a granular appearance resulting under the microscope; the capillaries are observed in part empty, and in part filled with exudation globules, without any red blood; and hence, assuming a whitish-straw color. A yet stronger pressure of blood and urine produces, within the tubuli, a separation and regeneration of epithelium, analogous to the eruption and desquamation of the surface; and, finally, albumen is separated with the urine."

This impaired activity of the cortical substance, this morbid condition of the urinary tubules and epithelial cells, prevent the

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proper elimination of the urea, and the retention of this substance, in connection with the scarlatina poison, acts efficiently in the production of the troublesome sequelæ under consideration.

(*c.*) The *mode* in which dropsy is induced from the above described renal affection, is, perhaps, the following: The retained urea acts as a poison, deteriorating the blood, from which retained excretion the system attempts to relieve itself, perhaps by an increase of the other secretions. Succeeding in this, no dropsy is produced. But if the amount of the retained urea is too great, or its deficient elimination too long continued, for the successful resistance of the enfeebled powers of the system, excitement of various parts and sundry effusions ensue.

Besides this excrementitious retention, there is a deficiency of albumen in the blood, which loss, by thinning that fluid, predisposes to and facilitates dropsical effusions. It is to this impairment of the circulating fluid, from the causes mentioned, and the disposition of the scarlatinous poison to become eliminated by the skin, that dropsical effusions are probably due; the effusions into the serous membranes being attributable to the former cause alone.

2d. *Hydrops anæmicus*, or dropsy produced as a consequence of anæmia, occasionally succeeds scarlet fever. The renal affection above described—the deficiency of albumen, and the retained urea in the blood—may so deteriorate that fluid, by diminishing the red globules and increasing the watery constituents, as to resemble anæmia. But by anæmic dropsy is meant that form of effusion, resulting from a deficiency in quantity and deterioration in the quality of the blood, independent of any renal affection or marked morbid condition of the urine. The diminished and impoverished condition of the blood in anæmia disturbs circulation, promotes congestion or local determination of blood, and facilitates watery effusion. The heart, failing to receive its normal amount of healthy stimulus, performs its action less perfectly than in health. This impaired circulation, in connection with a lax condition of the veins, predisposes to congestion and congestion to effusion. Not only so, but in debility, the relaxed condition of the capillary blood vessels allows the liquid portion of the blood to pass through their walls with less than ordinary resistance.

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In the *treatment* of renal dropsy, resulting as a sequela of scarlatina, the indications of treatment are, 1st, to relieve the congested condition of the kidneys; 2nd, to restore the normal functions of these organs; and 3d, to support the system against the prostrating effects of deteriorated blood.

1st. To relieve the congested condition of the kidneys, blood-letting, purgatives and diaphoretics are the instrumentalities most to be relied upon. In the early stage, when the symptoms of congestion are well marked, when the urine is acid, blood-colored and albuminous, blood may be taken from the arm, but not with that freedom which is justifiable in most other congestive diseases. The reason of this is obvious, when it is remembered that the patients are mostly young children, and that the retained urea, in connection with the scarlatinous poison, rapidly deteriorates the blood and induces anæmia. Venesection is a remedy of such power in such cases, that without the exercise of much wisdom as to the case, to time and quantity of the abstraction, more of harm than good may result. In some cases, cupping to the small of the back or leeches applied in the region of the kidneys, may be a safer means of depletion. But in most cases, probably the loss of blood can be wholly dispensed with, trusting to the anti-phlogistic and revulsive effect of cathartics and diaphoretics. Of cathartics, the saline are to be preferred, and may be administered daily or less frequently, as the circumstances of the case may require. Of diaphoretics, antimony should be preferred in cases of great vascular excitement, accompanied with considerable head-ache, and a very hot and dry skin. The neutral mixture and the solution of the acetate of ammonia, are appropriate remedies in such cases. The Dover's powder may be given in such cases as are unaccompanied with headache or a disposition to stupor. These may be given singly, or variously combined to meet the peculiarities of the age, vigor of constitution, period of disease or intensity of morbid action. Whatever be the choice or combination of diaphoretics, the medicine should be given every two or three hours, so as to maintain an uninterrupted impression. The daily administration of the warm bath, is a powerful auxiliary to the above mentioned remedies.

2d. To restoring the normal function of the kidneys, by the administration of diuretics, high authority stands opposed; or,

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at least, there is an honest diversity of opinion among medical writers, in regard to the propriety of such a procedure. But it is presumable that objection is mostly made upon theoretical grounds. Many suppose that diuretics, by stimulating the kidneys, increase their already congested condition, and thus defeat the very object for which they are administered. In measles, small pox, or scarlet fever, we do not hesitate to administer diaphoretics, notwithstanding the congested condition of the skin; neither do we fear any increase in the intensity of disease by such administrations. But, on the contrary, it is upon such medicines that we place our greatest reliance.

Admitting the specific nature of the congestion and exfoliation of the epithelium, lining the tubuli of the cortical structure of the renal organs, why should diuretics be more inappropriate than diaphoretics in congestion and exfoliation, upon the surface of the body in uncomplicated cases of scarlatina? Again: when we consider that the greatest danger in these cases, arises from the retained urinary excretions, and that improvement is simultaneous with the return of the normal functions of the kidneys, the importance of the judicious administration of diuretics becomes an almost irresistible conviction. Of diuretics, cream of tartar and digitalis are probably superior to all others, excepting in cases of extreme debility. These may be given singly or in combination, with decided advantage, and without risk of increasing renal congestion, if the dose and frequency of repetition be proportioned to the age of the patient and the varying symptoms of individual cases. Many careful and judicious practitioners, would probably advise diuretics, only after several days' continuance of the antiphlogistic remedies, mentioned when speaking of the accomplishment of the first indication. But, probably, in most cases, after general or local bleeding, as the case may require, or after the administration of a saline cathartic, should loss of blood be considered injudicious, the diuretics above mentioned may be commenced with at first, and continued in appropriate doses every three or four hours, in connection with an occasional cathartic.

3d. When the urine is of a whitish-yellow color, from its large proportion of albumen, and ceases to exhibit an acid reaction, antiphlogistics must be dispensed with, and the rapid deterioration of the blood guarded against by the judicious administration of tonics. Diuretics may still be persevered in, and there is

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nothing inconsistent in giving tonics in connection with cream of tartar and digitalis. But, if the anæmia is very considerable, the more stimulating diuretics may be preferred. The spirits of nitre is particularly appropriate in cases accompanied with nervous derangement. Of the tonics, perhaps the muriated tincture of iron is equal, if not superior, in these cases, to any other known.

The treatment of anæmic dropsy consists, essentially, in the administration of tonics and stimulating diuretics. A judicious administration of the remedies mentioned, both in reference to the age of the patient and the peculiarities of each case, will, in a great majority of cases, eventuate in recovery.

Removal of a portion of the Left Lung.

By T. B. Hale, M.D.

Editor Medical Examiner:

Dear Doctor,—The following case has been communicated to me by my friend, Dr. Hale, of Minersville, Pa. Believing it to be unique, I am desirous of giving it to the profession through the pages of your valuable journal. The removed portion of lung is now in my possession. It is pyriform in shape, somewhat flattened, and measures about 6 inches long, 2½ inches in diameter at the largest end, and 1 inch in diameter where it was cut across. It appears quite destitute of blood, except near the small end, where the capillaries appear quite full. The specimen is somewhat contracted in size from the action of the alcohol in which it is preserved.

Very respectfully,

J. H. Wythes, M. D.

Port Carbon, Dec. 21, 1854.

C. D., an Irishman, aged 25 years, rather small in stature, but stoutly built, with a well developed chest, being engaged in a fight while intoxicated, received a stab in the left side, parallel with the ribs. The wound was about 1¼ inch long, and appeared to have been made with a sharp, clean-cutting instrument. About fourteen hours after the injury he was visited by Dr. Hale, who found, upon examination, a portion of the left lung protruding from the thorax. He was sitting up in bed, having the protruded portion supported by a broad bandage. He complained of no

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pain, and had suffered but little from loss of blood. There was no cough or difficulty of breathing, but on taking a full inspiration the protruded lung became filled with air, and drops of venous blood oozed from its substance. The protrusion was so tightly strangulated at the wound in the thorax that after an hour and a half spent in unsuccessful efforts to restore it, Dr. Hale made a cautious attempt to enlarge the wound in the interosseous space. Fearing, however, the effect of a large opening into the cavity of the pleura, he was induced to desist, and consider the propriety of excision. As the protrusion looked extremely unhealthy, from the length of time since the accident and the efforts made to reduce it, making gangrene not an improbable result, excision seemed to be the only resource. Dr. H. contemplated applying a ligature at the base of the protruded lung, but on making two experimental incisions into its substance, and no blood flowing, this was not judged necessary, but the mass was at once excised, and the remaining portion pushed back through the wound in the interosseous space, the orifice of which was then closed with two stitches and strips of adhesive plaster. The patient was then directed to lie quietly on his back, and a mixture of two parts syr. prun. virgin., and one part syr. opii prescribed; a tablespoonful to be given every two hours for the purpose of allaying irritation in the bronchial tubes. On the second day, Dr. Hale found him in a favorable condition, and on the sixth day he walked five miles to visit his physician, suffering in no manner from the loss of the portion of lung. For the last three months he has labored constantly in the coal mines, without inconvenience.

The speedy recovery of the patient appears to have been due to adhesive inflammation between the adjacent walls of the pleura, through the wound in which the protruded lung was strangulated. In all probability the pulmonary and costal pleura and the substance of the lung are all connected in the same cicatrix.

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Report of a Case of Triplets.

By R. A. F. Penrose, M.D.

The case reported below, is an abstract made from the notes of Mr. C. H. Hall, a member of my practical obstetrical class, and occurred in one of the patients assigned to his charge. It is given merely to increase the statistics on the subject, and because the mechanism of labor was carefully watched by Mr. Hall.

"I was called, Dec. 28th, 1854, to Mrs. W——, supposed to be in labor, this being her second confinement. Found that she had been suffering, more or less, with pains since the midnight previous. My attention was called at once to what she termed "a great swelling in her side," and on examining her abdomen, an unusual prominence was found extending from the hypogastric into the right lumbar region, apparently produced by the position of the child in utero. The os uteri was found slightly dilated, soft and moist. From this time, 11 o'clock, A. M., the labor progressed very slowly. By four o'clock, the head had somewhat descended, and the occiput was found in front and to the left, and by six, the child was born. The cord was very short. On applying the hand upon the abdomen, to ensure contraction of the uterus, it was found to be of very unusual size, and suspecting another child, I made an examination, and found a head presenting *exactly in the same position* as the first. The pains being very feeble, the delivery of the head of the second child was very tedious, the head remaining almost three quarters of an hour half protruded through the vulva. Some ergot being administered, the uterine contractions became more powerful, and the head was expelled. And now a hard, round tumor was felt distending the perineum, and as the shoulders of the second child were born, the head of a third slipped out, which had descended, firmly pressed against the anterior and upper portion of the thorax of the second child, and having the same position as the heads of the two preceding children, viz.: the occiput to the front. The two children thus born simultaneously, exhibiting no signs of life, every effort made to resuscitate them proving unavailing. Particular attention was paid

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to the uterus, in order to secure proper contraction, and more ergot was given to promote the same object, the patient being very much exhausted. The placenta was delivered, and on examination, it was found that there was a common placental mass for the three children. This mass was more than double the size of an ordinary placenta, was of oblong shape, having three cords, and the remains of three bags of membranes. Upon injecting fluid into the different cords, it was found that the fluid injected into the vessels of one cord could not be made to pass out by the vessels of either of the others, but returned by the vessels of the same cord.

The children were all small. The mother did well.

Mortality of Philadelphia for October, November and December, 1854; collated from the Health Office Record; with a summary of Deaths for the entire year. By WILSON JEWELL, M.D.

It will be noticed, by a reference to former tables, that the rate of mortality for the last three months, falls considerably below that of either of the three preceding quarters of the year.

The total of deaths for the 4th quarter, terminating December 30th, 1854, is 2,204; which number, estimating the population at 450,000, gives about 20.41 deaths in every thousand, or an average of twenty-four deaths daily—nearly one half or fifty per cent. less than for the 3d quarter of the year.

By omitting the deaths charged to Still-born, External Causes, Old Age and Unknown, amounting in all to 333, the mortality from accredited diseases alone, is only 1871, thus reducing the average of deaths from diseases to about 20 per day.

The destruction of infant life in this quarter, as in former statistics gathered from the Health Office, continues to maintain its high rate, and is of sufficient import to claim the earnest consideration and persevering investigations of every physician and political economist, in order to point out the true cause, and if removable, suggest the remedy.

Dr. Friedlander, a modern French writer, asserts that one-fourth of all children born alive, perish within the first year. Having no data of births for reference during the past three

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years in Philadelphia, we can only add that, in former years, the proportion ranged between one-fourth and one-fifth of all births, including, however, the still-born. Even this great sacrifice of life on its threshold, is full of interest, and ought to command the most careful study and application from the vital and political statistician.

The number of deaths recorded in the present quarter, under one year, exclusive of Still-born, amounts to 437, about one-fifth, or nearly 20 per cent. of the whole.

If a similar calculation be made of deaths under five, amounting to 973, it will exhibit a far higher rate of mortality, reaching almost to one half the whole number of deaths for the quarter.

The highest rate of mortality for any one distinct period of of life occurred under one year, viz., 437. For the next five periods, that is between 1 and 20 years, the deaths gradually diminished as the years increased. At that decade of life, between 20 and 30, the second highest rate of deaths took place, when again there was a regular declension up to the last period, 100 to 110. This arrangement is so uniform in death statistics generally, as would almost induce one to look upon it as an established law of nature.

The excess of deaths in the male sex for the quarter, has been equal to 10 per cent. over the females.

The excess of male still born children has also been 10 per cent. over those of females.

Table No. 2, *Class* 1*st.*—"Endemic or Epidemic diseases," amount only to 445, or 20.19 per cent. of the whole. Compared with the returns for July, August and September, it shows a reduction of 1517! This wide difference is occasioned by the falling off in the deaths from Cholera Asphyxia, Morbus and Infantum, and Dysentery and Diarrhœa.

Of Scarlet Fever there has been only six deaths in three months. In 1853, like months, there were 59 deaths.

Class 2*d.*—"Uncertain Seat;" of these there were 281 deaths. More than two-thirds were from Debility, Dropsy and Marasmus.

Nearly one-half the deaths under this head were within the first year of life.

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Class 3d.—Of "Nervous diseases" there have been recorded 377 deaths. Of these, 129 were from convulsions, 76 of which number were under one year of age. Two hundred and twent-one, or 58·62 per cent. of all the deaths in this class were under five years of life.

Class 4th.—The diseases of the "Organs of Respiration" furnish 561 of the deaths for the quarter, a greater per centage than those of any other class. Of these, 349 were from Consumption of the Lungs, which in proportion to the number of deaths is as 25·83 per cent. The highest mortality from Consumption was between 20 and 30 years. From Inflammation of the Lungs there were 103 deaths.

Of the remaining classes contained in this table there is nothing remarkable. Where they present the usual variety of deaths, the numbers are unusually few.

Two hundred and twenty-two of the deaths recorded were from the Alms-house; 139 were blacks, and 12 from the country.

TABLE NO. I.

Deaths for the fourth quarter of 1854 *classified.*

				Male.			Female.			
	Oct.	Nov.	Dec.	O.	N.	D.	O.	N.	D.	Total.
1 *Endemic & Contagious diseases* Zymotic or Epidemic	187	166	92	106	95	57	81	71	35	445
2 *Uncertain or general seat,* Sporadic diseases	101	109	71	48	59	41	53	50	30	281
3 Nervous system	124	139	114	73	83	68	51	56	46	377
4 Organs of Respiration	176	191	198	74	91	107	102	100	91	565
5 " Circulation	14	19	17	7	10	10	7	9	7	50
6 Digestive organs	41	55	30	20	28	17	21	27	13	126
7 Urinary "	2		2	2		2				4
8 Organs of Generation	1	5	4				1	5	4	10
9 " Locomotion	4	4	4	3	3	3	1	1	1	12
10 Integumentary system		1						1		1
11 Old age	14	14	16	6	6	7	8	8	9	44
12 External causes	32	35	25	28	22	18	4	13	7	92
Still Born	41	46	41	25	28	22	16	18	19	128
Unknown	17	24	28	11	15	19	6	9	9	69
	754	808	642	403	440	371	351	368	271	2204

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TABLE NO. 2.

1. *Endemic and Contagious Diseases—Zymotic or Epidemic.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cholera Asphyxia	34	22	1		4	2	1	2	10	14	6	10	4	3				56
" infantum	17	13	14	13	3													30
" morbus	8	10				2	1	1	3	2	2	1	3	2	1			18
Croup	50	43	9	19	48	17												93
Diarrhœa	15	10	5	2	2				4	1	3	2	2	4				25
Dysentery	33	26	2	9	6			2	7	10	5	12	5	1				59
Erysipelas	8	2	2		1	1		1	1	3	1							10
Fever,	2	1	1								1	1						3
" Bilious	5				2				1			2						5
" Congestive		1												1				1
" Intermit.	2	1		1									1	1				3
" Malignant	1								1									1
" Remittent	9	6	1	1	1	1			2	3	1	3	1	1				15
" Scarlet	4	2	2	1	2	1												6
" Typhoid	37	21			3	5		8	11	14	9	4	1	3				58
" Typhus	8	8							8	4	1	1	2					16
Hooping Cough	12	16	15	3	8	2												28
Influenza	1												1					1
Measles	2	1	1	1	1													3
Small Pox	9	3	2		5		1		3	1								12
Syphilis	1	1	1									1						2
	258	187	56	50	86	31	3	14	50	53	29	37	20	15	1			445

2. *Uncertain or General Seat—Sporadic Diseases.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess	4	4	2	1					2			1	2					8
" Glands	1			1														1
" Neck	1												1					1
Cancer		2								1			1					2
" Breast		2								1		1						2
Cyanosis	7	7	13						1									14
Debility	49	37	41	5	2	1	1	1	1	6	6	7	6	5	2	2		86
Dropsy	13	18		1	1	1		1	6	3	4	8	5	1				31
Gangrene	1		1															1
Hemorrhage	3	1	1					1		1			1					4
Inanition	15	6	18	1					1				1					21
Inflammation		1	1															1
" parotid glands	1									1								1
" throat	1		1															1
Malformation	4	1	5															5
Marasmus	39	40	43	20	9	1	1		1	1			2		1			79
Mortification		3			1								1		1			3
" Leg	1												1					1
Schirrhus		1								1								1
Scrofula	1	6	4		1		2											7
Sore Mouth	1			1														1
" Throat		1	1															1
Tabes Mesenterica	4	2	4								1		1					6
Ulceration of Face		1				1												1
" Throat	2						1					1						2
	148	133	135	30	15	4	4	3	12	15	11	18	22	6	4	2		281

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3. *Nervous Diseases.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess of Brain		1				1												1
Apoplexy	15	17	2						3	4	8	9	2	3	1			32
Concussion of Brain	3						2				1							3
Congestion "	24	17	5	10	7	1	1	2	6	2	1	3		3				41
Convulsions	71	58	76	14	24	4	1		3	2	2	1		2				129
" Puerperal		4							2	1	1							4
Disease of Brain	11	3	3	2	2		3		1	1	1			1				14
Dropsy "	27	16	17	9	10	4	2			1								43
Effusion	5	4	1	2	4		1				1							9
Epilepsy		1					1											1
Inflammation of Brain	35	15	12	8	9	5	3	2	4	2		2	3					50
Insanity		1							1									1
Mania	1	3							1		2	1						4
" a Potu	12	2								3	8	3						14
Neuralgia	2												2					2
Palsy	10	9							2	2	2	3	1	6	3			19
Softening of Brain	4				1						1		1	1				4
Trismus	1		1															1
Tetanus	3	2	1	1			1	1			1							5
	224	153	118	46	57	15	15	5	23	18	29	22	9	16	4			377

4. *Organs of Respiration.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Asthma	3	4	2	1	1								2	1				7
Congestion of Lungs	9	6	9	1	2					1		1		1				15
Consumption "	164	185	4	4	5	1	2	24	120	84	49	30	16	6	3	1		349
Disease of Chest	1		1															1
" Lungs	5	5	2	1	1				1	1	2	1	1					10
Dropsy of Chest	3	2							1	1		1	1		1			5
Gangrene of Lungs		1								1								1
Hectic Fever		1											1					1
Hemorrhage of Lungs	3	3					1	2	1		1	1						6
Inflamm'n of Bronchiæ	26	24	23	7	3		1	1	3	5		1	1	4	2			50
" Chest	1	1	1		1													2
" Larynx	3	1	2	1										1				4
" Lungs	49	54	21	16	11	3	3	1	9	13	7	7	6	4	2			103
" Pleura	2	2							1	2		1						4
" Tonsils	1				1													1
Tuberculosis	2	4			1			2	2	1								6
	272	293	65	31	26	4	7	29	138	109	59	43	28	17	8	1		565

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5. *Organs of Circulation.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Anæmia	2		1							1								2
Disease of Heart	19	16	2				1	1	5	3	10	6	2	5				35
Dropsy "	1	1											1	1				2
Enlargem't "	2	1								1	1	1						3
Gout "		1													1			1
Inflammat'n "		1											1					1
" Veins	2	1	1						2									3
Malformation of Heart	1		1															1
Ossification "		1							1									1
" Arteries		1													1			1
	27	23	5				1	1	8	5	11	7	4	6	2			50

6. *Digestive Organs.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess of Liver	2									1		1						2
" Stomach	1							1										1
Cancer of "	3	1										2	1	1				4
" Liver	1	1											1	1				2
Cancrum Oris	2	3			3	2												5
Cirrhosis of Liver	1	1										2						2
Congestion "	2		2															2
Constipation	1	1							1				1					2
Consumption of Bowels	1				1													1
Disease of Bowels	1	1	1									1						2
" Liver	5	5	2						1	1	1		3	1	1			10
" Stomach		2							1	1								2
Dropsy, Abdominal	9	8					1	1	1	4	4	3	3					17
Dyspepsia	1										1							1
Hernia, Strangulated	1	1					1					1						2
Inflammation of Liver	4	3							1		2	3		1				7
" Peritoneum	6	5				1	1	1	3	2	1	1		1				11
" Stom. & Bowels	14	16	9	2	1	2	1		2	2	2	2	1	6				30
Jaundice	3	6	3						2	1		1	1	1				9
Obstruction of Bowels	2	1						1	1				1					3
Schirrus Pyloris		1											1					1
Teething	2	2	2	2														4
Ulceration of Intestines	1	3				2		1				1						4
" Rectum	1											1						1
Worms	1			1														1
	65	61	19	5	5	7	4	5	13	12	11	19	13	12	1			126

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7. *Urinary Organs.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess of Kidneys,	1									1								1
Disease "	1										1							1
Inflammation "	1					1												1
" Urinary Organs	1												1					1
	4					1				1	1		1					4

8. *Organs of Generation.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cancer of Uterus		4							1	1	2							4
Child-bed,		2							1	1								2
Inflammation of Uterus		1								1								1
Puerperal Fever		1							1									1
Rupture of Uterus		1								1								1
Ulceration "		1											1					1
		10							3	4	2		1					10

9. *Organs of Locomotion.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Caries of Spine	1						1											1
Disease "	2	1					1		1		1			1				4
" of Hip Joint	2	1					1	2				2						3
Rheumatism	2	1							1									3
White Swelling	1								1									1
	9	3					3	2	3		1	2		1				12

10. *Integumentary System.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Purpura Hemorrhagica		1	1															1

11. *Old Age.*

Old Age	19	25											6	15	13	9	1	44

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12. *External Causes.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 90.	80 to 90.	90 to 100.	100 to 110.	Total.
Asphyxia	1	2	3															3
Burns	8	3	1	1	4	1			2		1	1						11
Casualties	22	3	2		1		4	1	7	7	3							25
Drowned	17	2			2			1	3	5	3	1	3	1				19
Fracture of Ankle	1								1									1
" Leg	1									1								1
" Skull	1									1								1
Intemperance	8	8							3	2	7	1	1	2				16
Poison	2	1						1		1	1							3
Suffocation		4	3					1										4
Suicide	6							1		1	2	1		1				6
Violence	1	1	2															2
	68	24	11	1	7	1	4	5	16	18	17	4	4	4				92
Still Born	75	53	128															128
Unknown	45	24	27	1	6		1	1	6	4	11	5	5	1	1			69

TABLE NO. 3.

Deaths for the Fourth Quarter of 1854, *at fifteen distinct periods of life.*

Under 1 year,	437
1 to 2	164
2 to 5	202
5 to 10	63
10 to 15	42
15 to 20	65
20 to 30	272
30 to 40	239
40 to 50	182
50 to 60	157
60 to 70	113
70 to 80	93
80 to 90	34
90 to 100	12
100 to 110	1
	2076
Still Born	128
Total,	2204

Included within the above table, were 222 from the Blockley Alms House; 139 Blacks, and 12 from the country, as follows:

	October.	November.	December.	Total.
Almshouse,	82	77	63	222
Blacks,	53	42	44	139
Country,	4	4	4	12
Total,				373

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Annual Mortality of Philadelphia, 1854.

By comparing the mortality of 1854 with that of 1853, the most notable difference is the increase of the former over the latter. This, however, to some extent, at least, may be accounted for, aside from an epidemic influence, by the additional amount of territory with its sub-urban population engrafted on the city proper and its incorporated districts, from which alone, before the act of consolidation, the mortuary tables were calculated. Now, the returns from a number of burial grounds scattered over the county, are added to the former list, and instead of calculating the death rates from the returns of a population estimated at 415,000, we now embrace the population of the entire county, and from the most reliable evidence to be obtained, venture to set it down at 450,000.

Starting with this proposition, the relative numerical difference of mortality between these two years may be explained away, especially when taken together, with the redundancy of deaths which marked the presence of the several varieties of Cholera as well as Endemic Dysentery, during the past summer.

During the fifty-two weeks embraced within the dates January 1st and December 30th, 1854, there have died of the population of our city 11,784. By reducing to a mean, the population for the year, which gives 432,500, it follows that the average of deaths would be 36·70 in every thousand, or 32·28 for each day, 226.1-7 each week, and 982 each month.

The increase over the deaths for 1853, which amounted to 9,744, has been 2,040, equivalent to 9·48 per cent.

Of the total number of deaths, 3,309, or 28·08 per cent. perished within the first year of life. Five thousand eight hundred and fifty-three, or 49·58 per cent. within the fifth year. Under twenty, 6,800, or 58·70 per cent. These calculations include the Still-born.

Only fifty-three of all who died, lived until the tenth decade of life—over 90—and 13 were centennarians.

The following table will exhibit at a glance the mortality for the year, of diseases grouped together in classes, and from other causes, together with the rate of per centage compared with the whole number of deaths:

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	Yearly Mortality.	Per cent. to whole number.
1. Endemic and Contagious diseases. Zymotic or Epidemic,	3306	28·05
2. Uncertain or General Seat. Sporadic diseases,	1375	11·66
3. Nervous System,	2176	18·46
4. Organs of Respiration,	2429	20·61
5. " Circulation,	241	2·04
6. " Digestion,	585	4·96
7. Urinary Organs,	34	0·28
8. Organs of Generation,	79	0·66
9. " Locomotion,	47	0·39
10. Integumentary System,	15	0·12
11. Old Age,	196	1·66
12. External Causes,	446	3·77
Still Born,	534	4·44
Unknown,	321	2·87

From this analysis, we learn that the Endemic and Epidemic diseases, amounting to 3,306, presented the highest rate of mortality during the year, equal to 28·05 per cent. The organs of Respiration, the next highest rate, 2,429, being equivalent to 20·61 per cent. of the whole.

Still-born children give 534, or 4·44 per cent. of the deaths, while Old Age furnishes but 196, or 1·66 per cent.

The ratio of deaths in each sex, according to the months of the year, was as follows:

Months.	Males.	Females.	Total.
January	387	362	749
February	547	477	1024
March	435	372	807
April	407	365	771
May	457	403	860
June	453	384	838
July	985	805	1790
August	939	832	1771
September	526	444	970
October	403	351	754
November	440	368	808
December	371	271	642
	6350	5434	11784

According to this exhibition, there were 6,350 male deaths

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and 5,434 female deaths; showing an excess of 7·77 per cent. of the former over the latter.

The highest mortality took place in July, viz., 1790, presenting an average of 58 deaths per day. The next highest in August, or 57 per day; then February, or 36 per day. Then follow in order September, May, June, November, March, April, October, January, December, which last is the lowest, 642, or 20 deaths per day.

Consumption of the Lungs has supplied by far the greatest outlet to human life during the year, numbering 1,394, equivalent to 11·82 per cent. of the whole number of deaths, less 1 per cent. than those for 1853, compared with the total of deaths for the year.

All ages have succumbed to the power of this disease. Thirty-two were in earliest infancy, within the first year of life. Between the ages of twenty and thirty, 438, and between thirty and forty, 306, amounting to more than half of all that occurred. One was over 90, and one beyond one hundred years of age. The excess of the deaths was among females, equal to 3·29 per cent.

During the year the Alms-house furnished 951, or 8·07 per cent. of the whole number of deaths. The colored population 709, or 6·01 per cent, while there were 67 brought in from the country to add a fraction to the mortality of the city.

The subjoined table presents a synopsis of the diseases which have been most fatal, and hence most prevalent, for seven consecutive years in this city:

	1848	1849	1850	1851	1852	1853	1854
Cholera Infantum	454	582	505	397	329	398	715
Consumption of Lungs	965	939	907	881	1204	1246	1394
Congestion of Brain	85	91	97	130	120	172	222
Convulsions	401	415	444	479	499	543	695
Croup	177	130	143	180	208	303	304
Diarrhœa	122	225	208	157	156	130	219
Dropsy of the Brain	220	237	283	245	247	192	299
Dysentery	315	578	421	401	558	379	446
Inflammation of Brain	186	198	218	202	258	157	362
" Bronchiæ	172	169	191	175	208	197	243
" Lungs	265	273	352	352	444	353	472
Marasmus	237	264	217	255	354	376	457
Scarlet Fever	172	242	439	400	433	391	165
Small Pox	100	152	40	216	426	52	40

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To the sanitarian and the medico-politician, as well as to every philanthropist, it becomes an interesting subject of inquiry, what proportion of the annual deaths of our city for 1854, or any other past year, have been occasioned by untimely and preventable diseases. To arrive at correct conclusions on this important topic, we need scarcely advert to the necessity of appealing to the average deaths of a series of years. To illustrate the subject by the mortality of an isolated period, would furnish only a rational approximation to the truth; yet enough may be gathered from the estimate, to throw some light upon the great disproportion of those deaths in the midst of an urban population, preventable and premature, to those which are the result of natural causes or the fixed laws of nature.

Acute diseases of almost every form, dependant in a great measure on local and obviable causes, rob our population annually of thousands in early infancy, in the vigor of youth and in the prime of manhood; and be it known, that it is scarcely reserved for a twentieth part of our community to reach its "three score years and ten."

This early abridgment of human life, this rapid decay, this desecration of the living, would seem to be peculiar to metropolitan populations, and if the records of those historians who have supplied us with documentary evidence, and traced from year to year the effects of the large expenditure of life in cities to their causes, may be relied upon, then may we naturally conclude that the remedy lies within our reach—an efficient sanitary organization—which, in its widely adapted signification, shall apply its scientific labors to the physical, social and, we would add, the moral condition of a large proportion of our population.

We need not, however, enlarge on this vital and indispensable department of sanitary science, but pass to consider the great pressure of mortality on the young in our city as the result of preventable diseases, and the large disproportion between them and those more advanced in life.

As a single illustration of the large demand made by death upon our infant population, we need only advert to the fact that, during the year 1854, five thousand three hundred and nineteen

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(5319) children died in the first five years of life,* equal to 47·28 per cent of the whole number of deaths, while, according to the census of 1850, the proportion of our population under five years is not over 1·04 per cent.

This enormous extinction of life in early infancy, as compared with the proportion of children to the whole population, must depend upon certain physical causes, which, when brought under an efficient sanitary organization, would in all probability prove comparatively inert.

If we look carefully over that class of acute diseases enrolled under the head of "Epidemic or Endemic," many of which owe their fatality to local and remediable influences, we shall find that, of the whole number of deaths for the year, amounting to 8,806, nineteen hundred and ninety-nine (1,999) or 60·49 per cent., were among children under five years of age.

Nearly the same rate prevails in some other classes, and it is not irrational to infer, that if a judicious attention should be directed towards the remedying of those physical, social and moral evils which contribute a very heavy per centage in the destruction of infantile life in large cities, the mortality would be reduced one half its present average.

Of the whole number of deaths for the year 1854, it would not be unreasonable to contend, that two-fifths of them owe their occurrence and are, perhaps, intimately dependent for their origin on causes which are easily recognized as local and removable.

By separating those deaths in the table which come under the head of Still-born, Old Age, Unknown, External Causes and Debility, amounting in the aggregate to 1,955, and estimating that one-half the remainder are the result of chronic diseases, which do not come within the sphere of preventable deaths, we have left 4,914 properly belonging to acute ailments, which under an improved system of sanitary science, are partially or wholly capable of being so far ameliorated as to be deprived of their fatal character.

* This calculation does not include the Still-born children, which amounted to 534.

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Of that distinction of deaths regarded as the result of diseases local and preventable in their character, may be included the Epidemic and Endemic or Zymotic, Marasmus, Convulsions and Diseases of the Brain in Children, Inflammation of the Lungs and Bronchiæ, acute diseases of the Liver, Stomach and Bowels, Intemperance and Mania-a-potu.

Valuable indeed will be the reform in our sanitary police arrangements, when the death rate is reduced to one-half its present per centage; but while there is no likelihood of so pleasing an immunity from disease and death in our city as the above suggestion contemplates, we may still dwell on the promise of reform from year to year, as the science of Hygiene advances, until the population of all large cities shall compare in health with rural districts.

Introduction of a stick or swab-handle more than ten inches long into the stomach—its exit by an abscess—cure. By FRANCISCO GARCIA Y GARCIA, of Daimiel (Mancha baja.)

(Translated for the Medical Examiner from El Porvenir Medico of June, 1854.)

Mateo Sanchez de la Nieta, native of the town of Daimiel, aged between 45 and 50 years, contracted a syphilitic disease, which, after a time, affected the fauces and posterior part of the mouth. His attending physician, a distinguished practitioner, directed that the parts should be cleansed several times daily, and for the purpose constructed a swab with which he made the first applications, but not being sufficiently long the patient had it spliced until the stick was more than ten inches (una tercia) in length.

One afternoon in the month of September, he was alone in his house and complying with the directions of the practitioner; but the presence of the swab, the stimulus of the medicament, the contraction of the muscles of the pharynx, a spasmodic movement, the carelessness of the patient, or all conjoined, caused him to relinquish his grasp of the instrument, which remained in the back part of the mouth. While thus embarrassed, one of his daughters came in, who perceiving him in distress, and not able to answer questions, gave him water, which he asked for by signs, which not being able to swallow, was returned by the mouth and nostrils, with suffocating effect; some persons in the vicinity

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seeing him sought a physician; in the mean time, which was not long, the stick descended the œsophagus, the upper extremity fixing itself between the pomum Adami and the anterior portion of the fork formed by the sterno-cleido-mastoideus, producing a salient angle on the left side, which the patient indicated to the bystanders. A suffocating condition recurring, caused him to abandon it, and with the movements it disappeared not only from sight but also from the touch of the practitioner, who arrived after the patient had recovered from the paroxysm which followed that state. They gave him some spoonfuls of an anti-spasmodic mixture, which he swallowed with less difficulty than the water given him by his daughter. He recovered his speech somewhat, and complained only of anguish and smarting in the throat, and towards the left side a little above and front of the nipple of the same side, which gradually ceased, disappearing on the fourth day, the patient, physician and friends being left in an unhoped for quiet.

Eight days subsequently the patient felt, deep in the left side of the epigastric region, sharp pains, running towards the last false ribs, increasing every hour, accompanied with gastric irritation and febrile symptoms, which led the physician to suggest a resort to spiritual aid. On the following day, (the 14th from the ingestion of the stick) the greater part of the gastro-peritoneal symptoms, which indicated great peril, abated, the patient remaining almost without fever from the 17th to the 20th. Under these circumstances the practitioner proceeded to a minute examination of the patient, and ascertaining the existence of the stick in the cavity of the stomach, proposed to the patient the operation of *gastrotomy*, to which he objected his age, his severe suffering, his present comfortable condition, and finally that he would not submit, though it would cost him his life.

The practitioner forced unwillingly to yield to the entreaties of the patient, and abandon all operations, directed him to eat, assuring him his condition was not as flattering as he supposed. At the expiration of ten days (26th of the accident) the patient presented himself at the house of the physician, asking him to examine an *apostume,* as he called it, which had appeared far below the nipple of the left side. The next day it was opened by a crucial incision, and a large quantity of pus, both well

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formed and bloody, was discharged; with the evacuation the patient grew worse, but four days after the incision, having improved somewhat, and feeling himself much better, without waiting for the physician, he determined to remove the dressing and cleanse the wound: a female neighbor, who was present to assist him, saw with wonder what appeared to be the end of a black stick in the opening of the abscess; encouraged by the patient, she seized the foreign body and drew it, and they saw with astonishment four or five inches of the stick of the swab projecting.

In the midst of the conflict of the two, they thought of and sent for Dr. Povil, who came at once to the aid of his patient; he took the stick,—and assisted by the exit of pus, contractile movements of the stomach, muscles of inspiration and traction of the woman,—brought it to the surface, in *the intercostal space formed between the third and fourth false ribs of the left side*, as far as the point where it was spliced; then he seized the stick at the splice, fearing that the thread which bound it might give way, in consequence of putrefaction, which he presumed might have occurred since its ingestion: but this fear vanished when the point of the splice passing through the intercostal space, the thread was found unaltered; the extraction was continued until the extremity of the stick, to which threads or a frayed rag were tied, reached the external wound, where it stuck, causing new and sharp pains in the stomach, which, although they subsided, were followed by great distress and a soporose state. Having recovered, the practitioner continued his exertions, and introduced his thumb into the wound, and by forcibly depressing the inferior rib, succeeded in dislodging and extracting the entire swab just as it had entered the mouth 28 days before. It was followed by a flow of pus, considerable blood, and gastric juice through the wound, together with some partially digested alimentary substances which had been eaten in the morning.

Care was taken in dressing the wound to avoid the introduction of air into it. He was placed upon his back with head and shoulders elevated, ordered a strict diet, being allowed a few spoonsful of acidulated water for drink. The stick was found to be of black poplar, (Populus nigra), and more than a tercia (a third of a Spanish yard) or about eleven inches in length. The patient passed an uncomfortable night, but slept at intervals in

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the early part of the next morning. On the 4th day from the removal of the stick the wound was of a dark color, owing to the presence of some coagula of blood; these came away the next day with the poultice, and the wound assumed a healthy appearance, and was completely healed in 26 days from the removal of the stick, and 49 from its entrance by the mouth.

This case occurred at Daimiel in the month of September, 1832, and was well known among the people. The statement is from the patient before death and from his children who witnessed it. In 1834 Sanchez had a light attack of cholera; but during the ten succeeding years he worked as gardener and laborer without suffering from any serious indisposition; he remained fat and healthy until May 1844, when the writer began to practice in the town. He died in 1849 of an acute attack of pleuro-pneumonia. [W. S. W. R.]

Inquiry into the number of victims by Lightning, and into certain Phenomena observed in Men and Animals struck by Lightning. By M. BOUDIN, Physician in Chief to the Military Hospital of Roule. (*Memoir read before the Academy of Sciences, sitting of the 23d of October.*)

(Translated from the French for the Medical Examiner.)

The dissertation which we have the honor to submit to the Academy has for its object to call attention to, 1st, the great number of deaths by lightning, and of accidents caused by it.

2dly. To certain phenomena observed in men and animals struck by lightning.

If means capable of protecting man, dwellings and vessels against lightning are too frequently neglected, it is because the extent of the evil is very generally unknown.

Besides, the medical history of lightning-stroke has been, hitherto, so little studied, that the signs by which death by it has been recognized are not to be found in any of the treatises on legal medicine. From this double claim, our discourse will not, perhaps, be devoid of a life-like interest.

"The number of persons destroyed by lightning is so limited," said M. Arago, "that the probability of death by such means may be considered as trifling. The journals of 1805 did not record a single death by lightning in France. In 1806, the

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death of but two children was mentioned; in 1807 two husbandmen only were struck; in 1808 but one waterman is mentioned as having been killed by this agent." Such was the statement of M. Arago.

According to M. Kœmtz, the fear of lightning arises from *early prejudice, inculcated by ignorant parents.*

As regards the opinions of these two learned men, if we interrogate facts, we shall find that, in the short period from 1835 to 1852, not less than thirteen hundred and eight persons were destroyed by lightning in France. We speak only of those who were *instantaneously* killed. As for our documents, we have taken them from the recording office of the Minister of Justice. The number of persons killed by lightning has increased, in 1835, to 111; in 1847 to 108 persons. It is evident, however, that the number who were *instantaneously* killed does not include all who were victims to this cause.

In 1797, Volney mentioned that, in the United States, in three months, 17 persons were killed by lightning and 84 seriously injured. From these data, we think that the number of persons struck by lightning should be estimated to be at least three times greater than that of those instantaneously killed. It should hence follow, that the mean of persons struck by lightning in France annually exceeds two hundred in number.

In consulting other official documents, we have found the annual mean number of individuals killed, *at once*, by lightning in other countries to be, in Belgium, 3; in Sweden, 9·64; in England 22.

We have constructed a geographical chart, making a division into departments, of the deaths caused by lightning. From this document it follows,

1st. That no department completely escapes from such accidents.

2d. That they are very unequally distributed in the different departments.

3d. That the maximum of deaths by lightning is found in those departments which combine to form the central table-land of France and a few other mountainous departments.

Thus, in the period we have examined, we find two deaths in Eure, three in Eure et Loir and Calvados, which number increases to 20 deaths in Cantal, 24 in Aveyron, 27 in Corsica, 38

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in Saône-et-Loire, 44 in Haute-Loire, 48 in Puy-de-Dôme. Altitude, hence, appears to have an important effect.*

From the observation of 29 cases of vessels struck by lightning, at different times of the year, M. Arago concluded that, "at sea, lightning occurring in warm weather is much less dangerous than in cold."

In examining 103 instances of persons struck by lightning in France, we have found the following distribution: January none, February none, March 4, April 6, May 8, June 22, July 13, August 19, September 14, October 15, November none, December none. It follows, that, at least in France, the four cold months of the year may be said to be exempt from deaths by lightning.

As regards the sexes, 100 persons killed by lightning give us 67 men, 23 persons of whom the sex was not mentioned, and only 10 women. In Sweden, we find 5 men killed to 3 women; in England, 32 men and 11 women.

The maximum of persons killed by a single stroke of lightning, in the authorities we have been able to consult, has not exceeded the number of 8 or 9.

Animals are frequently more injured than the human species. Frequently entire flocks have been destroyed by one stroke of lightning. According to M. Abbadie, a single stroke killed two thousand sheep in Ethiopia.

In a number of instances, the shepherd, the horseman and the sportsman have been spared, whilst the thunderbolt struck cattle, horses and dogs.

Of 107 individuals killed by lightning from 1841 to 1854, we find 21 mentioned as having perished *under trees.*

We should add, however, that the place of death is not always mentioned, whence we have a right to infer that of the 1308 persons killed *instantaneously* in France from 1835 to 1852, three hundred at the least, would have escaped death if they had not sought shelter under trees.

Such facts deserve, we think, to be made public.

Fires caused by lightning are very numerous; their number has been as high as eight in a single week, in the departments of Meuse, of Moselle, of Menthe and Vosges.

* . . . . Feriuntque summos,
Fulmina montes. (Horat. i. 11, od. 7, ad Lic.)

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The little kingdom of Wurtemberg, alone, shows, from 1841 to 1850, one hundred and seventeen fires caused by lightning.

Immense losses result by it to the sea service. From 1829 to 1830, during a period of fifteen months, five English vessels of war were struck by lightning. The Resistance and the Lynx were completely annihilated by it. The official reports to the English government show that the damage formerly caused by lightning to the royal service was never less than from 6,000 to 10,000 pounds sterling, annually, (150,000 to 250,000 fr.) In 200 cases of thunder-stroke, 300 sailors were killed or wounded; 100 main-masts, worth from 1000 to 1200 pounds each (25,000 to 30,000 fr.) were entirely destroyed. In the period alone, from 1810 to 1815, 35 vessels of the line and 35 frigates, besides other vessels of less importance, were put out of service in consequence of being struck by lightning. Since all the vessels of the royal marine, however, have been provided with lightning rods, the official reports have not mentioned the occurrence of any damage from this cause.*

It has been often stated that lightning has never set fire to powder contained in magazines. We have but one objection to make. It set fire to the powder magazine of Tangier on the 4th of May, 1788, to the magazine of Luxembourg, on the 26th of June, 1807, and to the magazine of Venice, on the 9th of November, 1808. Finally, in 1769, in falling, it struck the powder magazine of Brescia, destroying the sixth part of the dwellings there, and causing the death of three thousand persons.

These facts are sufficient, we think, to show the extent of the evil, and the necessity of our serious attention to it.

In a second discourse, we shall resume the symptomatology of the accidents caused by lightning, as well as the present state of science of the pathological anatomy of these accidents.

There are two points, as important as they are curious, in the medical history of death by lightning, we would wish to call the attention of the Academy to. 1st. The images (perhaps photographic) made upon persons struck. 2d. Of death, the attitude remaining that in which the person was, when struck. These two facts have not only a scientific interest; they may yet acquire a high importance in *legal medicine.*

* Sir Snow Harris, Rudimentary Electric. London: 1851. P. 188

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As far back as 1786, two members of the Ancient Academy of Sciences cited, according to Franklin, the history of a man who, whilst standing at the door of a house, saw the lightning strike a tree which was before him. He found, says the report, *the fac-simile of the tree* upon his breast.

The circumstance was attributed to chance, or what was thought more likely, to a casual sanguineous effusion.

An analogous fact, which we had occasion to observe ourselves, determined us to make some researches, and this is the result of our investigation.

A woman of Lagun was struck by lightning: a flower which was in the course of the electrical current, was sketched upon her leg, and she preserved the trace of it during the remainder of her life.

In the roadstead of Zante, a sailor after being struck by lightning, discovered upon his breast the number 44, identical with that fixed in metal to the rigging of the ship.

In 1825, lightning struck the brigantine Il Buon Servo, and on the back of a sailor killed by it, was found the image of a horse shoe of the dimension of the iron nailed to the mizzen-mast.

On the 9th of October, 1836, in a storm near Zante, the young Politi was struck by lightning and killed. Doctor Dicapulo, charged by the Coroner to proceed to the examination of the body, mentions in his report the following facts:

"Young Politi, lying upon a bed, was dressed in a cotton jacket of a dark color, linen pantaloons, and waistcoat spotted with flowers. He wore a cravat of black silk, and a white sock upon his left foot; his right foot being naked. His half-boot, lying at the foot of the bed was ripped, and all his clothes, partly torn, were found burnt upon his back."

"M. Dicapulo adds, that in the right pocket of his coat were found a snuff-box and handkerchief, and in the left a parcel containing cream of tartar, &c.

Having entirely undressed him, says he, we saw about his loins a tight linen belt, and in the lining of this belt we found fourteen pieces of gold enveloped in two packages of paper; one in the right side contained a Spanish pistole, three guineas and two half guineas; that which was on his left side enclosed another Spanish pistole, four guineas, half a guinea, and two Venice sequins. Neither of these pieces, nor the paper, nor the linen, presented the slightest mark of scorch or burn. "Under his right foot a wound or gash of more than an inch in length, made us imagine that the lightning had penetrated by this extremity,

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and the passage was traced the whole length of the body; the leg and the right thigh, the buttocks and the back up to the neck, were strongly marked of a blackish color, and in all these parts the skin presented slight rents or ramified lacerations; the hair upon his body was almost all burnt, as well as his eye-lashes, his eye-brows, and his hair, particularly that behind his head. Little brown spots of the form and size of a lentil were scattered over his face. Finally, what appeared to us as most extraordinary," says Dr. Dicapulo, "the body had in the middle of the right shoulder, six circles, which preserved their flesh color, and appeared much more decided from the blackish color of the skin. These circles, one after the other, touching each other in one point, were of different sizes, corresponding exactly with the pieces of gold which the young man had in the right side of his belt, all of which was certified to by the coroner and by all the witnesses after the comparison was made.

We came to the conclusion that the unfortunate Spiridione Politi was struck by an ascending stroke of lightning, which, entering his right foot, traversed his whole body, burning the hair upon the surface, and penetrating the flesh, all of which was proved by the scarifications, the spots and the bronzed color of the skin; that the bituminous smell was owing to the decomposition of the fat of the body and the burning of his clothes; that the pieces of gold strongly attracted the electrical current, increased it, and carried the impressions to the extremity of the conductor, where they were fixed when it passed through the space which separated it from the window, by which it escaped.

I should not have been astonished if the electricity had melted or united the pieces of gold which were in its passage, leaving untouched those which were in the paper on his left side; but in granting, not without some difficulty, that the electric fluid may seize the impression of certain bodies which it meets with, and carry them to a distance, I do not understand how six pieces, piled up together, could be thus represented distinct and in a row. Many witnesses attest the fact; let us content ourselves with noting it, and collecting other facts of the same kind, inexplicable though they may appear to us."

In 1841, in the department of Inde et Lôire, a magistrate and a miller boy, in the neighborhood of a poplar tree, were struck by lightning. Upon the breasts of both were found marks precisely similar to the leaves of the poplar.

Let us pass to the phenomena, which, for brevity, we shall call *death standing*.

We have seen the body of a man, who, after being killed and stript of clothing by lightning, remained in an upright position.

Cardan tells of eight harvestmen, or reapers, who took their repast under an oak; having been struck by lightning they retained their attitudes after death. One appeared to be still eating, another drinking, and another one extending his hand to his glass.

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Father Beccaria and Dr. Gabrielli relate the history of men remaining in an upright position, who were killed by the electric fluid. We are familiar with several other facts of the same kind.

We all remember that in July, 1819, when the church of Chateau-neuf-les-Moustiers having been struck by lightning, *all* the dogs that were in the church were found dead, but on their legs.

M. Desormery has described a flash which struck him in 1849, and killed close by him a goat, which was found standing on its hind legs, still holding in its mouth a green branch.

Finally, among the most surprising facts of this kind, an instance is given of a priest who was struck by lightning while on horseback. The animal procceded on his course and brought back the rider, dead it is true, but in the usual attitude of a man on horseback.

Plutarch speaks of a Spartan soldier, who, after vain efforts to keep the dead body of a man in an upright position, abandoned his design with these remarkable words, "Decidedly there was something within this." Well, what the Spartan soldier attempted in vain, is brought about by the action of lightning.

To sum up; 1st, the accidents caused by the electric fiuid are serious and much more numerous than have hitherto been supposed.

2d. The mean annual number struck by lightning in France appears to exceed 200.

3d. The maximum of the accidents in France corresponds to the departments of the central table lands and mountainous districts.

4th. Women perish in a relatively small proportion.

5th. Among one hundred individuals thunder struck, twenty-five perish under trees.

6th. The upright death, or rather death with the attitude unchanged, and the photographic images, are phenomena of sufficient frequency for them to be taken into consideration in legal medicine.—*Gazette Medicale.*

The following newspaper extract was obligingly sent us by a friend:

"*An Electrotype.*—The Patterson (N. J.) Intelligencer gives a curious incident of the late thunder storm.

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"A little girl was standing at a window before which was a young maple tree. After a brilliant flash of lightning, a complete image of the tree was found imprinted on her body. This is not the first instance of the kind, but it is a singular phenomenon."—*Public Ledger.* Ed.

Calculous Phthisis.

(Translated for the Medical Examiner from the Gazette Medicale.)

M. Forget presented to the Academy of Medicine (meeting of 10th of Oct.,) a work entitled, Clinical view of Calculous Phthisis (not of tuberculous origin.)

From the facts stated by M. Forget, it should result:

1st. That pulmonary calculi can be primary, *sui generis*, that is to say, independent of the existence of tubercles, of inhaled dust, &c.

2d. These calculi can be solitary, either existing alone or in small numbers in the lungs.

3d. They may remain for a lesser or greater length of time, perhaps indefinitely, in a latent state in the lungs.

4th. They may occasion symptoms analogous to those of tuberculous phthisis.

5th. Calculous phthisis can be and is cured without relapse by expulsion of the pulmonary calculi, when they are either solitary or in small number.

6th. Hence calculous phthisis exists as a special affection, distinct from tubercular phthisis.

7th. Calculous phthisis differs essentially from tuberculous phthisis by its anatomical characters as well as by its terminations. Its differential diagnosis, drawn from its etiology, from its symptomatology, its course and treatment remain to be investigated.

Upon the nature of the Sausage Poison.

(Translated for the Medical Examiner.)

The following data are extracted from a notice in Schmidt's Jahrbuch (78, 4) of Prof. Julius Schlossberger's essay upon the *Sausage Poison.* (Vierordt's Arch. xi. 5.)

"The first notice of poisoning by sausage dates from the year 1735. Most of the cases known up to the opening of the pre-

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sent century are found in the Journals of Autenrieth, Kopp, Hufeland, Henke, Rust, Horn, in the works of J. Kerner, and in scattered dissertations which Schlossberger particularly cites. The instances of *poisoning* by *fish* have been principally referred to abroad, by Christison, Lichtenstädt, Orfila, Chevallier and Duchesne.

Sausage poisoning is found, as is well known, to occur principally in *Swabia;* S. estimates the number of cases of sickness produced by sausages in Würtemberg, within the last 50 years, to be at least 400, and the number of deaths from the same cause at least 150. Isolated cases have also been observed in Baden, Bavaria, Hessia, Dessau, Prussia, Saxony, and two cases, not sufficiently confirmed, in France. The poisonings nearly always occur in the winter and spring months, the greatest number proportionately in the month of April, (two-fifths of the whole,) that being the period where those that are eaten have been kept the longest; while in the warm weather, they pass so rapidly into actual putrefaction with the development of stinking gases, as to cause them to be rejected by persons with even the most blunted senses.

Blood and *liver* sausages are the only kinds in which the poison ever forms, which S. explains by the mode in which the country people are accustomed to prepare and preserve them. They are, for instance, principally prepared from the blood, brain, liver and similar parts, that are more liable than others to pass quickly into decomposition; are mixed with materials also that easily ferment, such as milk and wheat flour, while the boiling is often incomplete, or too long delayed in warm weather. The smoking also is often incomplete, either from defective smoke houses or from the diameter of the mass being too great, (in the so-called "blungen," or hog's stomach.) In such preparations the stinking putrefaction may be kept off or delayed, but full play is permitted to another species of decomposition the more dangerous, because impossible to be detected by the senses. Besides, these badly smoked sausages are often kept tightly packed in close, confined places. This kind of sausage, moreover, is often prepared by unskilful country butchers, or by the peasants themselves, who, to prevent the intestines from bursting, often purposely commit great errors in boiling and in filling

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them; too often leave hollows that are filled with fluid, or suffer the sausage to be too greatly penetrated by the broth. All the kinds of blood and liver sausages are of considerably greater diameter than those made from meat, and consequently are more difficult to stuff tightly and to smoke thoroughly (especially in the central postions) than the latter; the poisonous decomposition proceeding evidently from the centre outwards. In place of the blood of swine, that of cattle and of goats is often in part substituted, together with the plucks of sheep. That poisonous properties should likewise be found in such sausages cannot surprise us, when we bear in mind the similarity in composition of the blood and tissues of all the higher animals. Neither spices nor salt, which are generally used in great amount by the country people, prevent the commencement of this species of putrefaction. The character of the intestine used (those of swine and cattle) can have no influence upon the development of the poison, beyond that which arises from imperfect cleansing, and from the too great diameter, rendering the stuffing and drying more difficult.

But few *perceptible physical changes* are exhibited in the poisonous sausage. They often contain in the interior spots like curds or soft cheese, and occasionally are of a crumbly, almost brittle consistence, that extends more and more towards the circumference. Frequently nothing peculiar is presented to the taste or smell; the odor is somewhat disagreeable, resembling that of rancid fat. It is very probable that this odor is due to the formation of volatile fatty acids, since the neutral fats are always present in these sausages, under circumstances favorable to the decomposition of their fatty basis, the protein bodies present serving as ferments, or perhaps giving rise, by their own spontaneous decomposition, to these acids. The taste is described sometimes as sour, sometimes as bitter, or as rancid. A sausage examined by S. showed in its centre softened, curdy places; possessed an acid reaction, (free lactic acid,) an odor resembling butyric or metacetonic acid, and developed, by the addition of weak potash, an ammoniacal and also an extremely disagreeable odor; hydrochloric acid produced therewith copious fumes. The intestine was mouldy; the peripherical layers of the sausage were of normal appearance and not of acid reac-

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tion. It is not, however, proved that these softened places are the seat of the poison, many poisonous sausages not possessing them, and it is decided that different portions of the same sausage proved injurious with one individual and harmless with others; and of various spoiled sausages, subjected to the same conditions, some produced symptoms of poisoning, whilst others did not.

The action of the sausage poison upon the human body has, however, been more thoroughly investigated than any other of its properties. The phenomena which it calls forth, consist of functional disturbance of the intestinal canal, of the nervous system, respiratory apparatus, and diminution of the secretions. These symptoms have often been compared with those produced by poisoning with digitalis and with lead. S. considers them of interest, so far as they are capable of throwing light upon the nature of the poison, and directs attention especially to the facts, that the rate of mortality is extremely great; that the poison operates far more fatally upon weak, old, decrepid persons, than upon those otherwise strong and in health; that it is extremely dangerous, even in very small doses, (one or two thin slices of sausage); and that acid fluids appear to heighten the poisonous phenomena.

No constant alterations are found upon the bodies of those that have died from this poison, other than inflammatory spots in the intestinal canal, great muscular rigidity and remarkably slight symptoms of decomposition. In cases where, on the contrary, even during life, evidences of dissolution of the blood and afterwards of rapid decomposition in the corpse are found, it is always due, in part at least, to the use of sausages in stinking putrefaction, and these cases evidently belong to an entirely different class of poisonings.

Nothing satisfactory is as yet known with regard to the action of the sausage poison upon *animals*. S. found that a famishing terrier, which had greedily devoured several ounces of a sausage, (with smeary, softened places,) showed no ill effects from it, after the lapse even of four weeks, although it had fatally sickened a number of men who had eaten of it. This coincides with the experience of many other authors. S. here remarks upon the great necessity of caution in the transference of the deductions from toxicological experiments upon animals to man, and vice

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versa, particularly with the carnivora, whose intestines, frequently containing large quantities of putrid substances, carrion, &c., require that the gastric juice should possess the most energetic digestive powers. Although Kerner poisoned a large number of animals with substances prepared from spoiled sausages, yet, S. remarks, that those experiments can have in this respect no value, because they were made in part with products from the destructive distillation of hog's fat, and the remainder with impure fatty acids, obtained from the common neutral fats by saponification and subsequent decomposition by the mineral acids, and were in no instance derived from spoiled fats.

According to Buchner and Schumann, who operated with the portions of spoiled sausage, soluble in alcohol, the diluted poison exerts upon animals little or no action; and even when concentrated has much less effect than upon man.

The views that have been formed at various times with regard to the *nature* of this poison, have proved for the most part untenable. For instance, that it is due to an impregnation with metallic poisons; that it is owing to a peculiar decomposition of the sausage forming prussic acid; that it depends upon certain constituents of the smoke, (creasote, pyroligneous acid, &c.;) to the use of poisonous seeds (cocculus indicus) in place of the ordinary species; and finally, that it is due to the production of Welter's bitter (carbazotic acid) or some similar substance. The opinion that the materials used in the noxious sausages have been obtained from diseased animals, is satisfactorily shown in most cases to be without foundation. S. Kerner's views approach nearer the truth, in considering the poison to be produced by a decomposition of the substance of the sausage, not, however, identical with the common forms of putrefaction. But as K. obstinately maintains the fatty nature of the poison, he confounds together the most varied products of the decomposition of the protein bodies with those of the neutral fats. Besides, the margaric and stearic acids, the oily pyrogenous acids and the less volatile fatty acids are not poisonous; at most, the latter are corrosive only in their very concentrated state. Of course, experiments with the products of destructive distillation can lead to no conclusions with regard to the nature of the products of fermentation and putrefaction.

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The labors of Buchner and Schumann, who were the first to prepare the aqueous and alcoholic extracts of the sausage, only prove, 1st, that the poison is soluble in alcohol. 2dly, that the alcoholic extract is accompanied with much fat. Liebig represents the sausage poison as being a ferment arising from the putrefaction, and which introduces into the fluids and tissues of the living body its peculiar decomposition, and supports his view by fruitless attempts to isolate the poison, and by the destruction of the poison by treatment with alcohol or boiling water. While, however, Buchner's and Schumann's results rather contradict than confirm Liebig's position, experience has further shown that boiled and baked sausages can cause poisoning, and the phenomena produced (diminution of secretions, &c.) are directly opposite to those produced by the poisons of putrefaction. Since all the theories of the nature of the poison, capable of experimental proof, are not yet exhausted, S. thinks it best to discard the idea of a ferment, as its nature prevents all further investigation, and in place thereof, he proposes his supposition as applicable to most of the cases, and which has already been strengthened by many facts. This theory attributes the action of many poisonous sausages to the presence of an organic base, somewhat similar to nicotine, and is founded upon, 1st, the premises already, in great part, established, that in poisonous sausages and cheese, organic bases are formed by the decomposition of the protein bodies; and 2dly, upon the previous supposition that they give rise to these peculiar symptoms of poisoning, a thought that seems already to have occurred to Kastner, as he suggests the existence of an alkaloid derived from the mould in the sausages. The presence of such volatile bases in the decomposition of nitrogenous animal substances, from which ammonia is subsequently formed, is certainly more than probable, and in many cases stated by Stenhouse, shown to be constant. S. has also found ammonia in large amount in the noxious sausages, and remarked at the same time, a peculiar, disagreeable odor. The behaviour of the greater part of the substances homologous with ammonia, in the organism, is still unknown, and at all events each of them requires a physiological investigation; for out of the innumerable bases that have been and will yet be discovered, many, that are very similar in composition, exert very different

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effects upon the body. On the other hand, nicotine, coneine and spartein (the three best known representatives of the volatile bases from the vegetable kingdom, and whose close relation with ammonia cannot be ignored) are well known for their extraordinarily poisonous properties. It is certain that alkaloids, like leucine and tyrosine, are found in old cheese, and if these harmless substances occur, why should they not, under certain circumstances, be accompanied by poisonous bodies possessing the same chemical character? S. here observes, that opium, together with bases that act powerfully upon the organism, also contains alkaloids that are perfectly indifferent in this respect. S. also cites the instance of the volatile bases that Wertheim and Hofmann have shown to exist in herring pickle (propylamine, trimethylamine). S. finally endeavors to make use, for his hypothesis, of the circumstance discovered by Kerner and A——, that the products of destructive distillation of fresh blood-sausages cause similar symptoms in animals to those of the sausage poisoning. He there points out (according to Anderson's investigations upon the pyrogenous oil from bones) that during the destructive distillation of nitrogenous bodies, together with the so-called empyreumatic bases, the alcohol bases, such as methyl, æthylamine, &c., also appear, and that these, (like the separation of leucine into valerianic acid and ammonia,) form the necessary steps, in place of the fatty acids and ammonia. S. would also seek for the same volatile bases in poisonous mushrooms, in ergot, in rotten potatoes, in the air of graves and cloacæ, and even in the so-called cadaveric poison, and considers them as the cause of the action of these substances upon the organism.—*Not. fur prakt. Arzte.* 1854. *Band* 6. *S.* 485.

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BIBLIOGRAPHICAL NOTICES.

The Transactions of the American Medical Association. Instituted 1848. Vol. VII. New York: CHAS. B. NORTON, 1854.

In our last number, we mentioned the appearance of the volume now before us. We shall at the present time bring before our readers the report "of the Medicinal and Toxicological properties of the Cryptogamic Plants of the United States," by Dr. F. Peyre Porcher, of Charleston, S. C., a gentleman well and favorably known by his previous paper in the 2d Vol. of the Transactions, and as one of the Editors of the Charleston Medical Journal.

It is not our intention to make a critical review of the report, as this could not be done, in a manner at all satisfactory, within the space allotted us. We shall merely take it as a text for a few general observations on the subject, and for pointing out one or two facts, showing the advantages which have accrued to medical science from the study of Cryptogamic botany.

Since the time that hypothetical imaginings as to the causes of the phenomena of nature were recognized as subservient to observation and philosophical experiment, there has been a constant and gradual accumulation of an immense number of facts in every department of physics and Natural History; and science has been continually adding some new and valuable contribution to that rich collection of gifts, which she has already bestowed. The progress of science is in fact, a series of individual discoveries, and the smallest addition to the common treasury of knowledge is a service of inestimable value.

This paper of Dr. Porcher, on the medicinal and toxicological properties of the cryptogamia is especially welcome, as tending to throw additional interest over a department of botany for which we have always felt an especial attachment. The Linnæan maxim "*Natura maxime miranda in minimis*," nature is chiefly to be admired in the least things, is very appropriately placed at its head. This truth is as yet only partially appreciated, al-

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though it is one that should never be lost sight of in the study of nature. If it be philosophical to proceed from the known to the unknown on the pathway of a sound induction, it is equally so to trace the operations of nature in the simpler forms of life, before we attempt the more complex.

The development of the simple before that of the more complicated, appears ever to be the plan of nature, whether her operations be traced in time, or through the dark geological periods of the past. Not only may every animal and plant be traced back to a few simple cells, but the whole organized world is only a series of forms which exhibit the successive stages of their development.

It is well known to naturalists that there are amongst the simplest protophytes and protozoa, plants and animals which are composed of a few cells, or which are even unicellular in their organization. It is here that the animal appears to be blended with the vegetable. It has been said that the animal differs from the vegetable cell in that it possesses the power of motion. But this distinction fails. The spores of several of our fresh water algæ, as for instance *Conferva rivularis*, when first discharged from the plant, move about in the water by means of ciliary appendages during a part of their life, and were actually figured as infusorial animals, in this stage of their development by Ehrenberg, but after a while these little infusoria lose their ciliæ and become transformed into these well known filamentous aquatic algæ. Even chemical analysis fails to aid the naturalist, for cellulose, which was long regarded as peculiar to plants, has been found in the tunics of Ascidians, and in the brain of man. All researches into the limits between animals and plants in this condition of their organization have hitherto completely failed. One fact, however, has been clearly ascertained, viz, that both animals and plants originate from the same starting point, *the cell*, and are developed according to similar organic laws.

There is every reason to believe that the history of the development of vegetation on any barren rock, or newly formed coral island, illustrates those stages by which the earth itself became covered with verdure. The first vegetable denizens of the rocky surface are usually cryptogamous plants, such as crustaceous lichens; these are succeeded by the foliaceous species, and by such

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mosses as *Polytrichum commune*, *Hedwegia ciliata*, and the different varieties of *Leskia* and *Hypnum*, &c., plants which are of very humble growth, and of exceedingly simple structure, consisting, comparatively speaking, of only a few cells. The oxalic acid contained in the thalli of the lichens, together with the oxygen of the atmosphere, slowly disintegrate the rocky surface, and successive generations of these lowly protophytes finally create a humus which gives birth to a more highly organized vegetation. The higher cryptogamia now make their appearance, Polypodium vulgare, Asplenium trichomenes, Asplenium ebeneum, together with the Saxifrages, Arenarias, Aquilegia Canadensis and other phanerogamous plants. Such appears to be the order of nature—the cellular cryptogamia preparing the way for ferns and flowering plants,—the simple preceding the complex.

That cryptogamous plants are the most ancient inhabitants of the earth; that they existed anterior to the Phanerogamia, and formed, for a long succession of ages, a leading feature in the flora of the antediluvian world, is evident, if we consult the pages of geological history. It is true that the cellular cryptogamia, such as lichens and mosses, are very seldom found in a fossil state; but this is not to be wondered at, when we remember that the preservation of plants in this condition necessarily depends on their structure. The fossil cryptogamia, which have a woody and vascular structure, have, however, been preserved in the greatest abundance.*

Fossil plants are found in the aqueous and stratified formations, which have been divided into three great groups, the Palœzoic, the Secondary, and the Tertiary. The Palœzoic rocks include the Silurian, Cambrian and old red sandstone and carboniferous formations. In the Silurian, Cambrian and old red sandstone we meet with the remains of marine plants, and also a few terrestrial species. In the old red sandstone of Scotland, Miller has detected fucoid ferns, and in the same formation at Oporto, Bunbury has found Pecopteris cyathea, P. muricata, and Neuropteris

* The absence of organic remains in rocks is not always sufficient to enable us to state that these rocks were formed before animals or vegetables existed, since the late Prof. Forbes has shown that, even in the present day, there are depths in the ocean which are destitute of organic life. Hence rocks deposited at such depths might contain no organic remains.

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tenui-folia, ferns which are closely allied to those of the carboniferous period. There was land, therefore, as well as water at this remote epoch, although the abundance of fishes and marine plants seems to indicate that the sea covered the greater part of the earth's surface.

Towards the close of the palœzoic period, however, land plants appear to have been developed on an enlarged scale. Coal owes its origin to the abundant vegetation of this era; for it is now universally admitted that this substance is of vegetable origin. This the microscope has fully demonstrated. In some kinds of coal, punctuated woody fibre has been detected, in others dotted and scalariform tissue, as well as cells of various kinds. The occurrence of dotted and scalariform vessels indicates the presence of ferns and their allied forms, such as sigillaria, stegmaria and lepidodendrons, whilst true punctuated wood implies the presence of coniferæ.

In the secondary formations we meet with numerous coniferæ, and cycadeæ, whilst ferns and lycopodiaceæ are less abundant and not so gigantic in their growth. The tertiary period is characterised by an abundance of angiospermous dicotyledons, and of monocotyledons, more especially of palms. In the flora of the most recent tertiary deposits, we meet with coniferæ, rosaceæ, leguminosæ, &c., and with a small number of dicotyledons with gamospetalous corollas. There appears to have been a similar progression in the animal creation. Thus fishes and reptiles preceded the development of mammalia, and for innumerable ages appear to have been the predominating form.

In what we have now said we have attempted to show that the operations of organic law are the same both in the animal and vegetable world; that in both kingdoms there is a *regular gradation* from the simple, or imperfect, to the complex, or more perfect.

Few, we believe, recognize as they ought to do the benefits which have already occurred to physiology, and the science of medicine from the study of a few humble cryptogamia. The great cell-doctrine of physiology, which is now admitted to be the basis of all sound scientific investigations into the phenomena of organized beings, originated in the study of vegetable matter. M. Mirbel, in a most admirable memoir on the development of

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Marchantia polymorpha, a little acotyledonous plant belonging to the family of the *Hepaticæ*, was the first to show the cellular origin of every other form of vegetable tissue. He proved that the fibre cells of plants are only attenuated utricles, and that the different varieties of vasiform tissue and ducts, by which the interior of the plant is aerated, originate in a row of utricles; these gradually elongate on their internal surface, and the various secondary deposits characteristic of the different forms of spiral vessels, gradually make their appearance; the septa or partition walls between the several cellules are then absorbed, and the transformation of the utricles into vessels is completed. These observations were confirmed by the researches of Schleiden and other distinguished botanists, and thus a flood of light was thrown on the organization of plants. This discovery may thus be succinctly stated. The primitive form of all cells is that of a closed spherical vesicle or utricle. There is no plant or organ of a plant which is not at the commencement of its growth fabricated *exclusively* of cells, which approach more or less to that of a sphere in form. It is, however, only in plants which are very low in organization such as algæ and lichens that the cells remain in this condition; in vegetation of a higher grade this uniformity speedily disappears, and the individuality of the cells becomes manifest as growth progresses. While some of them continue spherical, others take a much higher degree of development and become gradually transformed into woody fibre and spiral vessels.

But how do the cells of plants originate? Whence come those new utricles which without ceasing are added to those already in existence, and which augment incessantly the mass from whence they draw their origin? These are difficult, but exceedingly interesting questions. The philosophical botanist has sought for their solution amongst cryptogamous plants, and his labors have been abundantly rewarded. A German naturalist, Mohl, selected for observation one of the fresh water algæ, which had been previously figured and described as *Conferva glomerata*. This simple thread-like plant was placed beneath the microscope, and the development of the row of utricles of which its entire organization consists, watched. Very soon, Mohl observed that the interior face of the cavity of one of the utricles presented towards its middle part a fold, which increased almost imperceptibly

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tibly until it ended by forming a complete wall dividing the cavity of the utricle into two parts. Each of these then dilated itself into a new utricle. Thus in the place of one cell there were two cells, which again divided in the same way, and so on. It is in this way that a single cell gives rise to a row of connected cells, when the division takes place in one direction, and to a plane or solid mass when it takes place in two or more directions. There are other modes of increase which we have not space to enumerate,—suffice it to say that their discovery originated in the investigation of cryptogamous plants of extreme simplicity of organization.

Up to this period it was believed by the most eminent physiologists that animal and vegetable tissues differed widely in their developement; and that cells existed only in plants. Such was the condition of things in 1838, when Schwann, taking up the beautiful investigations that Schleiden had just published upon the structure and growth of vegetable cells, came to the conclusion that animal tissue consisted equally of cells, and that whatever may be the character of the tissues, whether they assume the form of muscle, bones or bloodvessels, all originate in cells of which they are but modifications. The cells which form the tissue of the higher animals in their earliest condition, present the same uniformity of appearance in their external configuration as the cells of plants; some of them retain this cellular condition throughout the life of the animal. Thus what is called adipose tissue consists of a mass of globular or dodecahedral cells containing fat in their interior. Others, however, rapidly undergo a change of form in accordance with those laws of growth to which they are individually subject, and assume the form of bone, cartilage, bloodvessels, &c. In this respect precisely the same laws govern both the animal and vegetable world.

We find some further illustrations of an instructive kind, in the minutiæ of organic structure and embryology. It has been already stated that the basis of all vegetable and animal substances consist of cells. Nutriment is converted into these before being assimilated by the system. The tissues are formed from them. The ovum destined to be a new creature, is originally a cell with a contained granule. We see it acting this reproductive part in the simplest manner in the cryptogamic plants.

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"The parent cell, arrived at maturity by its exercise of its organic functions, bursts, and liberates its contained granules. These at once thrown upon their own resources, and entirely dependent for their nutrition on the surrounding elements, develop themselves into new cells, which repeat the life of their original. Amongst the higher tribes of the cryptogamia, the reproductive cell does not burst, but the first cells of the new structure are developed within it, and these gradually extend, by a similar process of multiplication, into that primary leaf-like expansion which is the first-formed structure in all plants."* Here we see the little cell becomes directly a plant, the full formed living being.

These grand discoveries which have given such an impulse to medical science originated in botanical investigations into the nature of cryptogamic vegetation, in minds which appreciated the truth of the Linnæn maxim, "*Natura maxime miranda in minimis.*"

The examination of cryptogamic plants, with reference to their medicinal and toxicological properties, has been prosecuted abroad with considerable success; and Dr. Porcher, in his Report, has added to his own labors what has been accomplished elsewhere.

In conclusion, we cannot express the very high opinion which we have formed of this paper better than by adopting the language of an able writer in another place: "This is an able and valuable paper, one which has evidently cost its author a vast amount of labor. To bring together, as he has done in this report, the leading facts that have been developed by various observers in relation to the properties and probable available uses of the cryptogamous plants met with in this country; to indicate their respective localities, and to identify their species and varieties, so as to be able correctly to appropriate the recorded observations in relation to their curative, poisonous or other properties, was, we can readily conceive, a task of no trifling character, demanding considerable research, much time and no little patience, more especially as the entire subject belongs to a department of enquiry which has had few laborers in this country."

We shall take another opportunity of examining the other Reports published in the present number. At present it may suffice

* Carpenter's Report on the Results obtained by the microscope in the study of Anatomy and Physiology, 1843.

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to say that we consider them as very creditable productions, quite equal, if not superior to their predecessors in other volumes. One word before we conclude, as to the manner in which the present volume has been published. We should have made no remark on this had not the subject been forced upon our notice by the unmeasured praises that have been bestowed upon it by one or more of the New York journals, and the unfair comparisons that have been made between the present Committee of Publication and their predecessors, in respect to the manner in which they have have performed their respective tasks.

We confess that we can discover no reason for the laudation that has been so profusely bestowed upon the committee having charge of the publication of the volume before us. The paper upon which it is printed is, we admit, of an excellent quality, while its typographical execution is as good as need be desired. In these respects the volume will compare very favorably with either of the preceding. If this can be viewed as a subject of commendation, we very cheerfully congratulate the committee upon it

We must, however, deny to the latter the credit that has been claimed for them from the circumstance of all the subscribers to the present volume of Transactions being furnished with copies bound in cloth and lettered, without any additional charge. This, it is to be recollected, was done in accordance with a recommendation of the former Committee of Publication, submitted to and adopted to by the Association at its last session. It is much to be regretted that this recommendation had not been fully complied with, and the volume before us made to correspond, in size and lettering, with the preceding volumes that were supplied to members in the same style of binding. This would have obviated the mortification which many now experience in being obliged to have upon their shelves a series of volumes of the same work, one of which is cut down nearly half an inch in the length of its page below the others, while the lettering upon its back is entirely different in its style and arrangement.

We have heard it said that the defect just alluded to may readily be overlooked in consideration of the much earlier period at which this volume of the Transactions has been issued than several of the preceding ones. We are well convinced that there has

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been no unnecessary delay in the publication of the present volume; its appearance has not, however, been any earlier than that of the preceding ones. It embraces just two hundred and one pages less than the volume for 1853; it contains no wood cuts, and but four easily executed lithographs, in addition to those which accompany the paper of Dr. Brainard; which latter were engraved in Paris in anticipation, we suspect, of the presentation of the essay they are designed to illustrate. The volume of the preceding year, besides its greater bulk, contained twenty-four lithographic drawings, the majority requiring considerable time for their proper execution, and sixty-seven wood cuts. It was, nevertheless, published only one week later than the present committee, with all their efforts, were able to issue the volume of Transactions committed to their charge.

The contents of the volume are clumsily arranged. The index to the valuable paper of Dr. Porcher is inserted altogether out of place, being at the very end of the volume, after the general index of the latter. Various other inaccuracies might be pointed out. Thus, the prize essay of Dr. Brainard is accredited on both its titles to Dr. David Brainard, whereas it is the production of Dr. Daniel Brainard. The list of permanent members is replete with errors, some of them altogether inexcusable; while the very important resolution of Dr. Atlee, adopted at the last session of the Association, requiring the Constitution with its several amendments to be printed with each volume of the Transactions, has been either overlooked or entirely disregarded by the committee.

We are perfectly willing to make allowance for many of the defects in the execution of the volume before us. The task of edit ing and publishing a work similar to these Transactions is certainly a difficult and laborious one, and when committed to those who have neither sufficient experience or leisure for its proper execution, cannot fail to be more or less imperfectly performed. We should have been among the last to notice the short-comings of the present Committee of Publication, had not the unwise and fulsome commendations of their friends, and the disparaging remarks bestowed by them upon the preceding committee, in order to magnify the labors of the former, seemed to render an examination of their pretensions necessary and proper.

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A Manual of Pathological Anatomy. By C. HANDFIELD JONES, M.B., F.R.S., &c.; and EDWARD H. SIEVEKING, M.D., &c. *First American Edition, revised. With three hundred and ninety seven illustrations.* Philadelphia: Blanchard & Lea. 1854.

We cordially welcome the above manual as a most valuable addition to the literature of the subject of which it treats. "The absence of any original work in the English language which embraces the whole subject" of pathological anatomy—the apology offered by the authors for its composition—greatly enhances our obligations for its acquisition. The necessity of an intimate acquaintance with the various morbid processes which affect the human organism need not, here, be spoken of. A just appreciation of these and of the effects produced by them should be considered indispensable to the practitioner both of surgery and medicine. The possession and application of such knowledge constitute, in fact, one of the essential differences between the accomplished physician, and him whose guidance is, at best, but mere conjecture.

The first part of the work, nearly one third of the whole book, is devoted to the subject of General Pathological Anatomy. Under this head, after some excellent preliminary observations, are described: Functional Derangement; Morbid States of the Blood; Textural Changes; New Formations—Tumors; and the Parasites existing in the Human Organization. The Pathological Anatomy of the Nervous System; of the Organs of Circulation; of the Organs of Respiration; of the Alimentary Canal; of the Urinary Apparatus; of the Female Organs of Generation; of the Joints; and, finally, of the Osseous System are then successively treated of.

Dr. Jones' observations regarding the immunity afforded by certain affections against tuberculous disease are both striking and instructive.

"Cystic growths are not often associated with tubercle, and the same is true of cancerous; when the latter are present together with tubercle, they are, in most cases, of secondary origin to it. Rokitansky contrasts the frequency of tuberculization of the lungs with the rarity of pulmonary cancer; the frequency of ovarian, gastric, and rectal cancer, with the rarity of tuberculous deposit in these parts. These and other facts indicate that the one morbid process tends to exclude the other. Typhus

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and the exanthemata, he states, do not commonly attack the tuberculous, but they are very apt to be followed by tuberculous disease. Sufferers from intermittent fever, goitrous disease, and rachitis, seem to be, *pro tanto*, less liable to tuberculous affection. The non-coexistence of aneurismal and tuberculous disease depends, in Rokitansky's opinion, on the exhaustion of the fibrinous constituent of the blood, by the deposits taking place on the inner surface of the sac. An especial immunity against tubercle is afforded by an abnormally venous condition of the blood, from whatever cause this may come to pass. Congenital malformations of the heart or great blood vessels; morbid alterations of the same; deformities of the chest, producing contraction of its cavity; annihilation of the function of one lung by pleuritic effusion; abdominal growths, preventing the free descent of the diaphragm; chronic pulmonary catarrh; emphysema and bronchial dilatation, have all been observed as exercising an unquestionable counter influence against the development of tubercle; and in all these conditions the free oxygenation of the blood is more or less interfered with. The undoubted effect of pregnancy in delaying the advance of tuberculous disease of the lungs, is explained by Rokitansky on the same principle of impeded, and consequently imperfect respiration, inducing a venous condition of blood; and he refers to the great production of fibrin, which takes place after parturition, as confirmatory of this view—tubercle being regarded as a fibriniform product."

As relating to the same subject, we would, here, draw attention to the following statement, (page 424:)

"A species of antithesis exists in the lungs between the tendency to tubercular deposit in their apices and the liability of the lower lobes to idiopathic inflammation. This may be accounted for by the encouragement to deposition from the blood offered in the apices of the lungs, by the lesser expansibility of these parts. The movement of the clavicle and two upper ribs is very small compared with that of the lower ribs, and the intercostal muscles are more rigid here than below, circumstances that are enhanced by a sluggish habit, while they favor any accidental impediment to the aeration of the blood. This, in its turn, diminishes the rapidity of the current as well as its quality; hence the morbid deposition ensues, and, as the cavities of the air-vesicles are the points of least resistance, the effusion is effected into them. We have already mentioned that the more rapid the course of phthisis, the more generally we find the deposit diffused through the lung. In a case of acute miliary tubercle, from which one of our illustrations is taken, the bases and the apices of both lungs were uniformly affected; both organs being studded throughout with the deposit, which had probably taken place but a few days previous to death, in a subject debilitated by rheumatic affection of the heart and central softening of the brain."

The conflicting views which are held regarding the value of the microscope as a positive means of distinguishing cancerous from other tumors, as well as the widely different opinions respecting

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their curability by operation or otherwise, are strongly evidenced in the discussion now going on before the Parisian Academy of Medicine. It will be seen by the following extract that Dr. Jones agrees with M. Velpeau in his very moderate estimate of the microscope as a means of diagnosis of such structures. After mentioning the different forms of cancer generally met with, Dr. Jones remarks:

"There may be, probably, other varieties of cancerous tumors, or, to put it otherwise, tumors possessing more or less of cancerousness; but we have now sketched the outline of the principal forms that are usually met with, and we feel convinced that it is far more important for the student and the practitioner, to contemplate steadily the great characteristics of cancerous disease, than to load his memory with the details of the incidental and trivial. Partly on this account we have not attempted to give any very minute description of the structure of cancerous tumors, for our own examinations have most thoroughly convinced us of the non-existence of any special structural character, absolutely and in all cases distinctive of cancer. This point, which is in accordance with the teachings of the best authorities, seems far from being correctly understood in the present day, and we cannot but think that there is still much tendency to over-estimate the microscope as a means for the diagnosis of cancer. It is our opinion that the cases are very rare indeed, where the microscope will avail to detect cancer with any certainty, where the naked eye features are insufficient. On the other hand, we have more than once seen unquestionable cancers made up of substance which we should have been led, from microscopic examination alone, to consider as of a simple nature."

The opinion of the same writer upon the curability of cancer by operation, though guarded, is, on the whole, unfavorable to such a proceeding, excepting as regards the epithelial varieties of the disease. He says:

"In concluding this subject, we may offer a few remarks with reference to the effects of removing cancerous tumors by operation. In the first place, it is quite clear that the disease is manifestly constitutional, and that no sound, real cure can be expected from merely removing its external development. Secondly, it is matter of experience, that in not a few instances surgical interference with one tumor has provoked the speedy appearance of several others. Thirdly, any attempt at removal is useless; nay, may be absolutely injurious, unless every particle of cancerous structure is taken away. Fourthly, epithelial cancers seem least prone to return after removal; encephaloid invariably does, and mostly with great rapidity; scirrhus may be checked in its progress, but its return can very rarely be prevented. The check which may be given by operation to the progress of cancer depends on the circumstance before stated, that a tumor, once formed, becomes an instrument for the multiplication of similar tumors and intensification of the diathesis. It

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must require a combination of favorable circumstances, or a great intensity of the diathesis, to insure the development of effused blastema into an heterologous growth; but when this has taken place, then the very growth and vital actions of the structure will constantly generate fresh supplies of cancerous blastema, and thus promote the formation of secondary cancers. The destruction, therefore, of the growth, which thus reacts so evily upon the system, may be reasonably expected, *if it do not aggravate*, to delay the cause of the disease. But the misfortune is, that, as above stated, it does sometimes aggravate, and that fearfully, a previously indolent cancerous diathesis. Dr. Walshe says, 'excision of a tumor seems to awaken a dormant force, cancers spring up in all directions, and enlarge with a power of vegetation almost incredible.' Why this should happen, we do not know; but we may conjecture that when the original diathesis is slight, the formation of a tumor may tend in some degree to localize it, and leave the system in a somewhat healthier state, provided the tumor itself be chiefly fibrous, and produce but a small amount of blastema. The removal of the indolent tumor may be analogous to the cure of fistula in ano in a person of phthisical tendency. The two principles referred to of the cancerous tumor, in one case acting as a cause, increasing the force of the disease, and in another retarding it, are not contradictory, though opposite; they will prevail in different degrees in different instances, according to the kind of tumor and other circumstances."

Our limited space alone restrains us from noticing more at length the various subjects treated of in this interesting work. Presenting, as it does, an excellent summary of the existing state of knowledge in relation to pathological Anatomy, we cannot too strongly urge upon the student the necessity of a thorough acquaintance with its contents.

Address delivered before the Philadelphia County Medical Society. By THOS. F. BETTON, M.D., M.A.N.S., President of the Society, Fellow of the College of Physicians of Philadelphia. Dec. 13th, 1854. Published by the Society.

It is perhaps not altogether becoming in the members of a society, albeit behind the reviewer's shield, to trumpet the praises of their own President's official production. We do not propose, therefore, to alarm his modesty, or any body's sense of propriety, by needless though natural gratulations on the very happy and elevated, as well as practically useful manner and matter of Dr. Betton's address. Still, simple truth requires us to say that we have fairly read it through, as we had previously listened to it, with unusual interest and pleasure, and a considerable degree of pride. Those who have enjoyed the same privilege must agree to the just-

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ness of this estimate, and we entertain no fear of a different result with others who may have the benefit of its perusal yet in store for them.

All will admit that the sentiments are those of a genuine lover of his calling, and of one who has the best and only true interests of his brethren at heart; and we are not ashamed to acknowledge full allegiance to the spirit of such an emanation from the highest seat of our professional synagogue. Any enumeration, however, of the reasons for the favorable impression here expressed, would only lead to an undesirable transgression of the rule of conduct under which we have just set out. Several questions are touched upon in such a way as strongly to incline us to occupy, in extracts, an amount of space which is already otherwise absorbed; others again are suggested which, in these days of agitation and progress, it is hard to avoid discussing. Such passages, for instance, as the following, and more of similar import:

"How, then, shall we begin to restore the palmy days of our profession, and see them shine with the same refulgence that illuminated them in the days of Rush, Shippen, Wistar, Physick, and a host of other departed worthies? How shall we exterminate quackery and all its attendant evils? Not by opposition, nor by ridicule, nor by satire, nor even by legislative enactments, were it possible to obtain them—for, like the rebel weed, it grows most luxuriantly when most trampled upon—but by elevating the tone and standard of ourselves, and of those who are to succeed us. Let us actively set about and demand a radical improvement in the course of medical instruction in this country; not by extending the term of lectures, nor by increasing the number of subjects now taught, but by exacting a more thorough preliminary education of those who enter the portals of our medical schools. Any one who mixes much among his medical brethren must be pained to find the lamentable ignorance displayed, by many, of all the branches of polite learning, so necessary to form the character of a physician and a gentleman. Let it be required of all who present themselves as pupils, to possess, at least, a correct knowledge of their own language, and such attainments in the classics as to enable them to construe the easier authors; or, at all events, to write correctly the common apothecary Latin of the day."

Our chief object in the present notice is to invite particular attention to one of the most important topics treated by the orator. It is a topic, too, which possesses a virtue decidedly rare in these annual demonstrations—novelty. We refer to the management of what are mis-called the College Clinics. Dr. Betton's remarks upon the evils of the system now in vogue among the schools, are so entirely in accordance with the views

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maintained in the January number of this Journal, and sustain them so directly, that we cannot deny ourselves the satisfaction of quoting them at length.

"The plan of clinical teaching in our medical schools, specious as it may at first sight appear, and attractive, as it certainly is, to the newly initiated student, anxious to witness, for the first time, the shedding of human blood, or wonder at the coolness and dexterity of the surgeon, is, at best, but little better than an advertisement. It does not teach operative surgery, for that can be learned practically only in the dissecting-room on the subject. It diverts clinical teaching from its proper channel of hospitals, almshouses and infirmaries, and is a direct injury to the profession at large, more especially to the junior members of it, by monopolizing practice which would otherwise fall under their hands. Who would not, very naturally and wisely, prefer submitting to a surgical operation at the hands of distinguished professors, eminent for their experience and skill, rather than to be subjected to the knife of a tyro, no matter what may be his talents and qualifications: particularly when all these advantages are accompanied by the magical inducement, that the relief is afforded *gratuitously*. It is underselling others, since many resort to the public clinics, who would willingly and readily afford some compensation, thereby taking this from the pocket of some deserving and aspiring young man, to whom, in all probability, it would have been of importance; and depriving him, moreover, of the opportunity of gaining that skill and experience which would give him high rank in his profession. In bygone days students never received any public clinical instruction in the amphitheatre of the schools; yet, were it allowable, we could point out as many physicians as learned, and surgeons as dexterous, as any who have graduated under the modern and so-called improved system. That it attracts pupils, and increases the size of the class, I believe there can be no doubt; this, perhaps, is all that is required. That it fails to instruct the pupil in an adequate degree, and that it is unjust to the profession generally, I believe there can be equally none."

We felt satisfied that the Examiner, in commenting on the evils and abuses of the so-called clinical demonstrations at our medical schools, was only giving active expression to a deeply felt conviction of the mass of our associates in practice, and of not a few even of the teachers of medicine. We knew that its language was but a faint echo of the long burthened and too long unuttered thoughts of the great majority of those around us, whose opinions, in such questions, in order to be conclusive in their operation, need only to be followed by decisive and united action. It was, nevertheless, a consummation far beyond our hopes to meet, at the very first step, with the frank and vigorous support of one whose position, at the head of those who are most

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aggrieved, because most extensively subjected to the wrong, gives peculiar significance and weight to his official warning.

We sincerely trust that the members of the body to whom that warning was addressed will not let it pass without appropriate response and a corresponding effort in the right direction. They have the power, and sooner or later they will be forced in self-defence to exercise it. They have been sleeping in a blissful ignorance, while a paralysing incubus was daily growing in their midst. They have discovered, just in time, that an overgrown monopoly in the guise of charitable science was threatening, under shelter of its delusive pretensions and advantages, to darken, if not destroy, their prospects of advancement.

Let us not be understood, in complaining of one portion of the prevailing system of practical instruction, to be approving of another portion, which, as at present frequently administered, may be scarcely less faulty and insufficient. Nor could we pretend, in agreeing with the proposition to double the established number of clinical lessons at the hospital, to do more than advocate it as the least possible step towards reform, and simply because that step is not only immediately practicable, but immediately demanded by the crying necessities of all concerned.

Until a better state of things is obtained in this country, we would be glad to see an entire separation between the elementary and didactic exercises of the lecture room and the practical exhibitions of disease, its results and its management at the bed-side. There is quite enough to do in both branches of teaching to afford abundance of legitimate work, during the customary term of study, to two distinct corps of preceptors. Whether the European example be followed in this respect or not, it is very certain that the attempt to convert a class-room into a sick-ward, an operating theatre, or even into a consulting dispensary, during two hours of two days in the week, cannot fail to produce a mongrel institution, which, as a whole, meets few of the real wants of the occasion, while it does endless injury by substituting a mockery and sham for a substantial good to the student on the one hand and the patient on the other.

We may return to the hospital curriculum at some future period. Our business now is with a far more potent evil. We have to deal, not with the bonâ fide clinical instruction imperatively needed by the student to prepare him for his destined work in

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life, but with its miserable counterfeit presented in a system which, producing a hotch-potch of the worst features of the hospital and the dispensary together, succeeds in imitating neither well enough to reconcile us with the absence of the other.

The important question is, how far does the objectionable system fail in meeting the acknowledged requirements of the learner?

We have no wish to under-rate the legitimate uses of a dispensary. The prescribing room of such a charity or the out-patients ward of a hospital, certainly afford an excellent field for a valuable amount and kind of practical training. But the student must diligently delve in it with his own hands; he must follow a competent adviser step by step in the greatest possible number and variety of cases; and, although at length familiarized with, but still studying, the walking specimens of human suffering, he must look within the hospital and watch long and earnestly among the fractures, the serious wounds, the fevers, the multiform disorders and stages of disease that occupy the beds, before he begins to think his student work accomplished.

The solid advantages obtainable from a Dispensary for the practical investigation of slight, incipient and other forms of portable disease and injury are unquestionably great, although we do not agree that such classes of medical and surgical disorder constitute a materially large proportion of the young practitioner's every day experience. In the amphitheatrical "clinic," however, the custom of presenting showy operations and attractive lectures, during the two hours a week devoted to each branch of practice, effectually does away with the main and sole recommendation to the out-patient plan, as a means of practical improvement.

Out of the whole number presenting themselves for professional treatment, a small fraction only can be exhibited, or dressed or operated on before the class; and these few are to be gazed at from a distance, if not through an ever waving mass of bushy heads and jutting shoulders. What becomes of the remainder, and who see and prescribe and otherwise attend to them, it is not for us to say. They doubtless enjoy the usual share of tender mercies for such cases made and provided, and undoubtedly may claim the honor of facilitating the practical improvement of the few enterprising votaries of science who find their way behind the scenes. But the majority of the lookers on in the class

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room know and learn nothing from the crowd of cases that are hastened through by the professor or his clinical assistant, during the brief time allowed for consultation and advice.

Unfortunately, again, we meet a stumbling block which might be easily forgotten by every one except the really practical inquirer. Who is to insure a second visit from the patient whose interesting ailment has been once provided for? And who is to guarantee that he will adhere to any one of the directions with which he has been formally dismissed in the hearing of the class? It is unnecessary to pursue this subject further. We need no ghost from the grave to tell us how to estimate the scientific value of the absurd performances which are thus dignified with the title and importance of lessons in the healing art. But the great boast—the leading card of these displays is their surgery—their splendid operations!

Here, at least, is no mistake, and something tangible! It is visible sometimes, and audible, but rarely tangible. Even in the vision must the faith be constantly in service. The vaunted operation, the crepitating bone, the projecting dislocation, the fluctuating abscess, the impermeable stricture, may each be brilliantly portrayed to the willing ear, and trustingly believed in; but he is a happy man indeed whose admission to the sanctum sanctorum of the arena has enabled him to touch or even see distinctly what is so fluently described; so, too, in many operations, the excited student must very often be content with faith, as the only evidence of the things not seen. Such and many similar difficulties, are, in short, inseparable from the plan adopted. They have been briefly hinted at without the remotest intention to reflect upon the truthfulness of the honorable and able teachers who are involved in these unsatisfactory and delusive exhibitions. Some of these objections, of course hold good against the hospital as well as the dispensary, especially so far as the demonstrations of the theatre are concerned. The worst of the dispensary is, that there is no help for such defects so long as the functions of a hospital are assumed, and the true and only province of the out-ward is abandoned or exceeded.

We have nearly exhausted our allotted space, but have barely entered on our subject. Occasions will not be wanting for a return to it again. We may then have something to say, amongst other matter, in relation to the moral effects of the sys-

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tem of gratuitous advice so shamefully abused in these clinics. This view of the question affords ample material for a chapter without allusion to other considerations. It has been for some time past, the sole burthen of numerous leaders and a multitude of letters in the British periodicals, under the impulse of an agitation in the mother country, which we earnestly hope will be attended with permanently good results,—results that may save us in America from the same kind of quicksands, towards which the members of the profession in this and other countries have been good naturedly and most blindly drifting. Let us once clearly open our eyes to the tendency of our own supineness, and nothing will be easier than to avert the threatened danger.

MEDICAL NEWS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.—At a Meeting, held January 17th, 1855, the following Officers and Delegates were elected for the present year, viz:

President—D. Francis Condie.

Vice Presidents—Wilson Jewell and Francis West.

Recording Secretary—Robert P. Thomas.

Assistant Secretary—J. Aitken Meigs.

Corresponding Secretary—Isaac Remington.

Treasurer.—Wm. Byrd Page.

Censors.—John B. Biddle, Anthony E. Stocker, Lewis Rodman, Wm. N. Johnson and Samuel Lewis.

Delegates to the American Medical Association—John Bell, Thomas F. Betton, D. Francis Condie, John Conrey, Samuel L. Hollingsworth, Samuel Jackson (Spruce street), Benjamin S. Janney, Wilson Jewell, William H. Klapp, D. Paul Lajus, John F. Lamb, R. La Roche, Samuel Lewis, Arnold Naudain, Wm. Byrd Page, Lewis Rodman, Anthony E. Stocker, Robert P. Thomas, Ellwood Wilson, Caspar Wister, Thomas H. Yardley and Jacob S. Zorns.

Delegates to the State Medical Society—T. Hewson Bache, John B. Biddle, Thomas F. Betton, Joseph Carson, Benjamin H. Coates, D. Francis Condie, John Conrey, G. Emerson, James V. Emlen, David Gilbert, Robert A. Given, Edward Hartshorne, Isaac Hays, Adinell Hewson, Samuel L. Hollingsworth, Nathan L. Hatfield, Alexander C. Hart, Abram Helffenstein, John H. Ingham, Samuel Jackson (Spruce street), Benjamin S. Janney, Wilson Jewell, Alfred L. Kennedy, Wm. H. Klapp, R. La Roche, Samuel Lewis, John F. Lamb, John H. B. McClellan, John K. Mitchell, S. Weir Mitchell, William Mayburry, John Neill, Arnold Naudain, Joseph Pancoast, John M. Pugh, Alfred Stillé, Francis G. Smith, Robert P. Thomas, Francis West, Ellwood Wilson, Caspar Wister, George B. Wood, Thos. H. Yardley and Jacob S. Zorns.

From the Minutes,

ROBERT B. THOMAS, Recording Secretary.

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At the Annual Meeting of the Northern Medical Association, held Jan. 12, 1855, the following Officers were elected for the ensuing year.

President—Dr. M. B. Smith.

Vice President—Dr. John Rhein.

Treasurer—Dr. J. Henry Smaltz.

Recording Secretary—Dr. Levi Curtis.

Reporting Secretaries—Drs. Joseph R. Bryan and Charles Wittig.

Corresponding Secretary—Dr. William Mayburry.

Counsellors—Drs. R. H. Townsend, N. L. Hatfield, R. J. Levis, George J. Zeigler and John Uhler.

Delegates to the American Medical Association—Drs. N. L. Hatfield, R. H. Townsend, J. Henry Smaltz, John Rhein and L. Curtis.

Selective Committee—Drs. George J. Zeigler, R. J. Levis, J. Henry Smaltz, Joseph R. Bryan and L. Curtis.

LEVI CURTIS, Recording Secretary.

ERRATUM.—In Dr. H. H. Smith's article on "Gastrotomy," in our last Number, the word *lump-like*, on page 4, should read *lymph-like*.

Abstract of Meteorological Observations for December, 1854, made at Philadelphia, Pa. Latitude 39° 57′ 28″ N., Longitude 75° 10′ 40″ W. from Greenwich. By PROF. JAMES A. KIRKPATRICK.

1854. Dec.	BAROMETER. Daily Mean	BAROMETER. Mean Daily Range.	THERMOM. Daily Mean	THERMOM. Mean Daily Range	Dew Point 2 P.M.	Rel. Humid. 2 P. M.	Rain and melted Snow.	Prevailing Winds.	Remarks.
	Inches.	Inches.	Deg.	Deg.	Deg.	Hunds.	Inch.	Points.	
1	29.885	.104	31.7	7.0	26.0	0.71		(Var.)	M. clear; aft. and ev. cloudy.
2	29.910	.083	34.5	4.2	25.8	.53		(Var.)	M. cloudy; aft. and ev. clear.
3	29.426	.484	35.7	2.5	41.0	1.00	0.620	N.	Cloudy. *Rain* all day, ev. *Snow*. *Bar. lowest* 29.244.
4	29.344	.247	27.5	8.2	20.0	.66		NW.	M. and aft. cloudy; ev. clear.
5	29.521	.143	24.8	3.2	20.0	.66		W.NW.	Cloudy.
6	29.569	.104	30.0	5.7	30.7	.88		SW.	Cloudy.
7	29.514	.134	30.3	7.0	23.3	.52		W.	M. and aft. cloudy; ev. clear.
8	30.025	.511	22.0	8.7	15.7	.50		NW.	Clear.
9	30.380	.355	25.7	5.0	23.0	.69		SW.	Clear.
10	30.165	.215	36.7	11.0	32.7	.66		SW.	M. clear; aft. and ev. cloudy. Rain during the night.
11	29.963	.202	36.3	6.3	30.7	.66	0.696	NW.	M. and aft. cloudy; ev. clear.
12	30.027	.064	31.5	4.8	28.3	.79		NW.	M. and aft. cloudy; ev. clear.
13	29.921	.111	36.0	5.8	30.3	.73		SW.	M. & aft. cl'y; ev. cl'r. *Th. hig'st* 48°.
14	29.855	.065	40.0	4.7	38.7	.70		SW.	M. and aft. cloudy; ev. clear.
15	29.719	.137	39.0	4.3	36.0	.75		NE.	M. clear; aft. and ev. cloudy.
16	29.650	.191	41.0	2.0	35.7	.68		NW.	Cloudy.
17	29.849	.198	32.3	8.7	25.0	.70		NE.	Cloudy.
18	29.848	.058	27.3	2.3	23.3	.77	0.020	N.NW.	M. *Snow*, aft. cloudy; ev. clear.
19	29.946	.093	17.3	10.0	14.0	.59		N.	Clear.
20	29.935	.015	14.3	4.3	12.0	.57		W.	Clear. *Therm. lowest* 6°.
21	29.871	.064	23.3	15.0	28.3	.79	0.052	(Var.)	M. *Snow*: cloudy.
22	30.174	.303	30.8	6.5	27.7	.62		(Var.)	Cloudy.
23	30.477	.304	20.5	10.7	20.0	.80	0.149	NE.	Cl'y; ev. rain. *Bar. highest* 30.504.
24	30.154	.323	34.3	13.8	33.7	.89	0.178	SW.	M. rain, cloudy; ev. fog.
25	30.034	.120	35.3	1.7	36.7	.90		SW.	M. and aft. cloudy; ev. clear.
26	29.939	.094	38.5	3.2	40.0	.88	1.354	NE.	Cloudy; m. fog; aft. & night rain.
27	29.794	.146	44.3	5.8	44.7	.92		N.	Cloudy.
28	29.794	.067	40.2	4.2	37.7	.90	0.116	NE.	Cloudy; ev. fog; aft. and night rain
29	29.750	.131	31.3	8.8	24.0	.69	0.116	NW.	M. *Rain* till 8, *Snow* till 12.
30	29.936	.190	22.0	9.3	15.7	.50		NW.	Clear.
31	30.063	.127	29.3	7.3	26.0	.71		NW.	Clear.
Means for Dec. 1854	29.885	.174	31.3	6.5	28.0	.74	3.185	N. 51° W., 63–100.	
8yrs	29.911		35.2		31.7		3.510	N. 47½° W. 51–100.	

Monthly Range of Barometer 1.260, and of the Thermometer 42°.

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Abstract of Meteorological Observations made at Philadelphia, Pa., Latitude 39° 57′ 28″ *N., Longitude* 75° 10′ 40″ *from Greenwich, for the year* 1854. By Prof. James A. Kirkpatrick.

1854.	Barometer, reduced to 32° F.				Thermometer.				Dew Point, 2 P.M.				Rain & Melted Snow.	Winds. Monthly Resultant.	Remarks.
	Mean	Highest	Lowest	Range	M.	H.	L.	R.	M.	H.	L.	R.			
	Inch.	Inches.	Inches.	Inches.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Inches.	No. of times in 1000.	
January	30.008	30.471	29.384	1.087	30.42	58	11½	46½	31.82	58.0	21.0	37.0	2.320	N. 88° W. .559	The warmest day was July 21st, mean temperature, 91.3°.
February	29.957	30.404	29.432	.972	33.42	61	16	45	33.04	55.3	24.7	30.6	4.200	N. 71° W. .461	
March	29.842	30.260	29.158	1.102	42.22	75	22	53	34.63	57.7	17.0	40.7	1.625	N. 53° W. .543	
April	29.872	30.518	29.249	1.269	50.08	85	28	57	39.29	52.0	23.7	28.3	8.145	West .378	Thermometer highest July 21st, 100½°, 3½ P. M.
May	29.847	30.153	29.585	.568	64.25	84	35	49	49.09	69.0	26.7	42.3	7.299	S. 85° W. .140	
June	29.824	30.098	29.519	.549	71.63	96	49	47	54.82	72.7	37.7	35.0	3.441	S. 76° W. .517	Coldest day, December 20, mean temperature 14.3°.
July	29.926	30.118	29.711	.407	79.11	100½	63	37½	59.22	72.0	47.7	24.3	3.837	N. 71° W. .410	
August	29.946	30.185	29.701	.484	75.49	95	56	39	56.70	71 0	45.7	25.3	0.918	N. 81° W. .212	Thermometer lowest Dec. 20th, 6°.
September	30.020	30.388	29.657	.731	70.02	94	47	47	56.54	69.7	36.0	33.7	4.883	West .178	
October	29.994	30.339	29.431	.891	59.15	79	34	45	47.19	67.7	29.3	38.4	1 918	N. 70° W. .320	Barometer highest, 30.518, on the 3d of April.
November	29.831	30.369	29.257	1.112	46 13	69	27	42	37.41	62.7	24.3	38 4	3.460	S. 85° W. .614	
December	29.885	30.504	29.244	1.260	31.26	48	6	42	27 96	44.7	12 0	32.7	3.185	N. 51° W. .629	
Annual means	29.913	30.518	29.158	1.360	54.43	100½	6	94½	43.98	72.7	12.0	60.7	45.23	N. 77° W. .378	Barometer lowest, 29.158, on the 17th of March.
Winter	29.945	30.471	29.115	1.356	32-55	61	11	50	31.56	58.0	16.0	42.0	10.680	N. 64° W. .496	
Spring	29.851	30.518	29.158	1.360	52.18	85	22	63	41.00	69.0	17.0	52.0	17.069	N. 72° W. .356	
Summer	29.899	30.185	29.549	.636	75.41	100½	49	51½	56.91	72.7	37.7	35.0	8.196	S. 87° W. .268	
Autumn	29.948	30.388	29.257	1.131	58.43	94	27	67	47.05	69.7	24.3	45.4	10.261	N. 82° W. .367	
For 3 years	29.920	30.709	28.895	1.804	54.04	100½	-3	103½	43.47	75.0	12.0	63.0	44.80	N. 74° W. .369	

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THE

MEDICAL EXAMINER.

NEW SERIES.—NO. CXXIII.—MARCH, 1855.

ORIGINAL COMMUNICATIONS.

Note on Secondary Variolous Ophthalmia. By Dr. Littell.

Mr. Editor:—In an article published in the September number of the Examiner, I incidentally expressed the opinion, that the opacity of the cornea in what is termed secondary variolous ophthalmia was owing, rather to the actual death of the part from inadequate nutrition, than, as is commonly supposed, to the formation in that membrane of a pustule analogous to those of the primary disease. The later occurrence and different appearance of the supposed pustule, is attempted to be accounted for by the difference of texture between the cornea and the skin; but it has, in fact, none of the characteristics of a pustule, possesses, so far as is known, no specific property, and more closely resembles, both in its aspect and progress, a slough detached through the ulcerative process. Its primary seat appears to be the conjunctival covering of the cornea, but the intensity of the subsequent reaction may be such as to implicate also the more deeply seated tissues, producing purulent infiltration of the cornea, effusion into the anterior chamber, iritis, &c., and occasioning greater or less impairment of vision.

The pathological view suggested, is chiefly important for its practical bearing; and therefore it is that I have recalled atten-

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tion to the subject. Of course, where the existence of general debility, atony of the extreme vessels, an altered condition of the fluids, and defective assimilation might almost certainly be presumed from the gravity of the previous constitutional malady, no prudent practitioner would think of employing depletory or antiphlogistic remedies with the same freedom as under other circumstances; but the importance of the organ and the severity of the inflammation, occupying his attention to the exclusion of the general depravation, might, nevertheless, betray him into the use of means from which he would not reap all the advantage that could be obtained, or which, indeed, by thwarting the restorative efforts of nature, might be positively injurious.

Regarded, however, as a slough occurring in a tissue of low organization, on the periphery of the system, and subject, therefore, to the operation of known laws, the indications of treatment are sufficiently apparent; imparting at once confidence to the physician and certainty to practice.

The Ol. morrhuæ with the spirits of turpentine as an alterative, a generous diet, the sulphate of quinine, and morphium to procure rest at night, are the chief general remedies which I have found necessary. Mackenzie recommends the tartrate of antimony so as to vomit and purge freely, during the acute stage of the inflammation, and subsequently has recourse to tonics. Where the internal parts of the eye become involved, calomel in small doses should be given in conjunction with the quinine, or as part of a course more actively antiphlogistic. The local inflammation, within certain limits, is a salutary movement, instituted to separate, in the first instance, a portion of the economy, now dead and useless, and afterwards to repair the consequences of its destruction. Should it transcend the degree required for this purpose, and threaten to implicate other tissues also, a few leeches to the temple will suffice for its abatement, and the relief of the congestion; but usually, no other topical treatment is demanded, than the use of atropia or belladonna to preserve the dilatation of the iris, and the application to the ulcer remaining after the detachment of the slough, of a weak solution of the nitrate of silver. Should further stimulation be indicated, the wine of opium, diluted or otherwise, may be advantageously prescribed.

February 15th, 1855.

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On Resection of the Tarsal and Metatarsal Bones in Caries of the Foot,—as a means of avoiding amputation. Illustrated by a case of resection of two of the cuneiform and two of the metatarsal bones—cured. By HENRY H. SMITH, M.D., Consulting Surgeon to the Philadelphia Hospital.

With the exception of the vertebræ, few of the short or thick bones are more liable to caries or to tuberculous deposit than those of the foot. When developed in these bones, caries seldom extends itself rapidly, but rather excites such inflammatory action in the surrounding parts, as tends to circumscribe and limit the disorder to the bone in which it originated. Although often accompanied by considerable constitutional disturbance, as well as by swelling and inflammation of the soft tissues, the ultimate tendency of caries of the bones of the foot is towards a cure; so that when the absorbents are aided in the removal of the diseased bone, the soft parts often again resume their natural appearance and perform their normal function. Caries of the tarsal bones may therefore be regarded as a disorder of a partial character, as it does not involve an extended surface. According to Mr. Miller,* all carious bones present three parts: "1st, a central ulcerous cavity. 2d, a circle exterior to this, which is affected by interstitial absorption; and 3d, a portion (which is of comparatively sound bone,) in which there is a low grade of action of the sthenic character. The two interior circles are, he remarks, "incapable of efficient reproduction or repair; but the external ones atone for their deficiency by throwing out new osseous matter."

If, then, in caries of the foot, the elimination of the diseased structure be aided by incising the soft parts, perforating the exterior shell of bone, and scooping out or otherwise removing the diseased particles, healthy granulations will arise from the outer circle of the bone, and the patient's general health be improved by the diminution of the otherwise long period of confinement.

But in addition to the time saved by this means of treating caries of the bones of the foot, the patient will also be materially

* Miller's Principles of Surgery, American Edition, p. 44.

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benefitted by the preservation of that portion of his lower extremity which is essential to active or graceful progression. In amputation at the metatarso-tarsal articulation, either as practised by Hey or by Lisfranc, the patient is necessarily deprived of the length of a portion of the limb which is intended by nature to aid him in progression in the erect position; whereas by resection this is preserved, and a steady support in walking guaranteed, as will be apparent from a slight reference to the structure of the foot. If the function of the foot was merely to aid in the support of the body in the erect posture, its length would probably not have been extended beyond the tarsus, as the arched form of these bones, together with their close apposition, indicate that they alone would capable of furnishing a vertical support. But the greater length of the metatarsal bones, as well as those of the phalanges when unrestrained by a boot, as clearly demonstrate that their function must be different, and show that they are mainly intended to aid progression, their length and position in advance of the tarsus exhibiting not only the creation of an abutment for the anterior support of the tarsal arch, but also the formation of such a series of moveable props as must add materially to the preservation of the proper centre of gravity in walking. In the Chinese women, where the development of these anterior props is prevented by constriction, the gait becomes unsteady and toddling, whilst in cases of amputation of both feet, it has generally been found necessary to compensate for their loss by the introduction of cork or some other material into the front of the boot. The bones of the tarsus have on the contrary been frequently removed without materially impairing progression, numerous instances of the resection of the astragalus, cuboid and scaphoid, having been reported in which there was little destruction of stability in any forward movement in the erect posture.

As evidence of the value of resection in the preservation of this important anterior portion of the foot, the following cases are now presented.

Caries of the Cuneiforme Internum and Medium, as well as the first two Metatarsal Bones, consequent on injury—cured with a useful foot, by resection.

Francois C., a Frenchman, æt. 39 years, was engaged in May last as a wood-cutter. In June 1854, after having twice bruised

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his instep, he was attacked with inflammation of his left foot, attended by great swelling and stiffness. Notwithstanding the pain, he continued working until the effusion gathered and broke directly over the os cuneiforme internum. Being compelled to give up his work, he entered the Philadelphia Hospital early in Oct., 1854, and was treated for his injury, but without much amelioration of his symptoms. In the latter part of this month I saw him and obtained the preceding account. The foot at this time was very much swollen from the ankle to the toes; was of a deep purple color, interspersed with spots of a brighter red, and had upon its dorsum one fistulous orifice over the os cuneiforme internum, another over the upper third of the first metatarsal bone, a third over the cuneiforme medium, and a fourth between the second and third metatarsal bones, or rather in the second interosseous space. A probe introduced into each of these openings readily entered the structure of the bones. There was no motion in the part, and there was a free, sanious discharge, with marked inflammatory disorder of the soft tissues. The constitutional symptoms were loss of appetite, deranged digestion, and quick pulse, (due to pain, &c.,) and his general habits were only moderately temperate. As I thought that the circumstances seemed to render it advisable to operate and remove the diseased bone, and he declined submitting to amputation till all other means had failed, I decided to resect the first metatarsal bone entire and scrape out the greater portion of the cuneiforme internum, hoping that the removal of these portions would eradicate most of the disease. This I accordingly accomplished in the usual manner, before the medical class, on November 15th. Under the use of the tepid water dressing, the wound did well, and the parts healed kindly, much of the swelling disappearing, but as the other fistulous orifices continued open and the bones beneath them were also diseased, that is, the cuneiforme medium and second metatarsal, I decided to resect them also, which I did on Dec. 8th, by a careful incision on the dorsum of the foot, the tendon and anterior tibial artery being pushed to one side. After scooping out the cuneiforme medium I removed the head and upper third of the second metatarsal bone, and dressed the wound as before. Little or no trouble supervened; the wound healed kindly; the inflammatory action diminished, and on

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January 12th, Francois was walking about the ward, improved in health and with every appearance of a useful foot. The depression left by the removal of the bones has been much diminished by deposition and lateral approximation, and the toes are now comparatively useful, much to the patient's gratification, especially as "he has escaped amputation."

A somewhat similar operation was performed by Dr. Geddings, of Charleston, and reported by him in the North American Archives of Medical and Surgical Science, vol. 1, p. 36, Baltimore, 1835. As this case is briefly stated, and is not perhaps readily accessible to the reader, I shall quote it somewhat at length:

"Case of Necrosis of the first three metatarsal and the cuneiform bones—extirpation of them, leaving the corresponding toes; cure."—A boy aged 18 years had his foot enormously enlarged, with several fistulous openings on the instep and inner border of the foot, through which a considerable quantity of ill-conditioned matter was discharged. The probe indicating that the bones were diseased, Dr. Geddings operated as follows:

An incision being made along the inner side of the foot from one extremity of the first metatarsal bone to the other, and its attachments having been destroyed by disease, the bone was readily removed so as to leave the great toe and its proper flexor and extensor tendons entire, and though the cuneiform bones as well as the second metatarsal bone were now found to be diseased, it was thought they might be thrown off by nature. The wound was therefore filled with dry lint, and the foot properly dressed.

As new fistulous orifices formed, and nature did not accomplish the removal, Dr. Geddings decided on a second operation, which he performed as follows: An incision being made in a longitudinal direction, upon the dorsum of the foot and in the course of each metatarsal bone, the lips were separated so as to expose the extensor tendons, and these being drawn aside, the bones were disarticulated first in front and then behind, and dissected from their beds so as to leave the toes with their tendons. This done, the three cuneiform bones were removed, as they could be easily picked away in fragments, in consequence of the progress of the disease. After a few days, suppuration was established,

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healthy granulations sprang up, the tumefaction of the foot subsided, and the preservation of the toes was found highly advantageous to the patient in walking, which he was able to do with but a trifling impediment in his step.*

In reporting this case, Dr. Geddings mentions, that it had been pronounced to be one requiring amputation of the leg, "an operation which it is to be feared is often resorted to on account of diseases of the tarsal and metatarsal bones, which might in many instances be relieved by a procedure which would secure to the patient the use of his foot."

Although twenty years has elapsed since the publication of this case by Dr. Geddings, the one which I have reported in this paper is, I believe, the first in which the means of avoiding amputation of the foot proposed by him, has been repeated, or, at all events, published. As a plan of affording relief without creating deformity, the resection of these bones certainly deserves more general consideration among American surgeons than it has apparently received. That the tumefaction and other inflammatory affections of the soft parts which accompanies the disease of these bones, has created anxiety in the minds of some surgeons as to the extent of the disorder, is evident, as nothing else could have induced the performance of amputation. Further investigation on the part of those who have hitherto looked favorably on amputation as a means of relieving a patien under these circumstances, will, however, show, that most of these appearances of great disorder are only skin deep; that the affection of the bones which originate it, is circumscribed, and that by the removal of the cause, the remainder of the member may be preserved. In the form of caries usually described as "scrofulous disease" of the bones of the foot, there is often only the deposit of a solitary tubercle in the cancellated structure, and it has been well shown by Nelaton†, that the progress of tuberculous matter when deposited in bone is similar to that noticed when it is deposited in the lungs; that is, to irritate and inflame the surrounding parts, and thus lead to the suppuration and disintegration of tissue, until it is thrown off. But in the disin-

* Dr. Geddings, loc. citat.

† Recherches sur l'Affection Tuberculeuse des os. Paris, 1837.

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tegrating process as seen in bone there is a marked tendency in the pus to discharge towards the surface instead of invading the neighboring articulations, and hence resection of the bones of the foot presents us, even in these cases, with a means of eradicating the diseased structure, and yet preserving sufficient of the adjacent sound parts to enable the patient to use the foot.

Case of Fracture of the Skull, successfully treated. By GEORGE DOCK, M. D., M. A. N. S., etc., Harrisburg, Pa.

On the 1st of November, 1854, about nine o'clock in the morning, Singleton Welden, æt. 34 years, during a scuffle with one of his neighbors, received a blow on the head from a spade, which felled him to the ground, rendering him insensible for a few moments. He soon recovered, however, and in the course of the morning, after the immediate effects of the concussion had subsided—sickness at the stomach, &c.—he walked several squares to the office of a justice of the peace, and entered a complaint of assault and battery. He then returned home, complained about noon of sickness at stomach, vomited, and had slight pain in his head. About 4 o'clock, P. M., he was seized with convulsions, and gradually sank into a state of unconsciousness.

About 8 o'clock that evening, Dr. S. T. Charlton, his attending physician, called at my office, gave me the above account of the case, and requested me to go with him to see his patient. I went with him, and found Welden lying on his back, in an unconscious, deep comatose state; his skin cool, breathing labored and stertorous, pupils slightly dilated, forehead covered with drops of cold perspiration, pulse about 120, confined and intermitting, and occasionally there was a convulsive twitch of right arm. His feet and legs were cold. Upon examination, I found over the ridge of the left parietal bone, a puffy tumor of the integuments, about two inches in diameter, with but a slight scratch of the skin. By manipulating directly over the swollen integuments it was impossible to ascertain the condition of the bone, but by dragging the scalp to one side a little and running my finger around the margin of the swelling, I detected, very distinctly, the sharp edge of the fractured bone, and the depression of the piece to a considerable depth. The case resolved itself clearly to us as

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one of *concussion* with *compression*, in our opinion requiring immediate attention. Having procured my trephining instruments, I made an H incision through the integuments, (previously removing the hair,) dissected back the flaps and laid bare the bone, which was fractured in an oval shape, to the extent of about one and a half by two inches in its diameters: the piece of bone, from its upper and anterior corner, along its upper line, back and down to its posterior and lower corner, was detached and driven in, so that its outer table was on a line with the inner table of the skull. The lower line and interior portion was bent, but firm. I placed the trephine on the anterior end of the fractured piece and perforated it, but was yet unable to raise the bone with an elevator. I then took Hey's saw and sawed across the end along the line of fracture. I then sawed across the piece lengthwise at a right angle from the first, along the lower, attached side of the piece, thus detaching the fractured piece completely, the outer table of which I removed with an elevator and my thumb. This piece was fissured into three portions, which were merely held together by the periosteum—considerable blood flowing from the bone, as well as from a small branch of the middle artery of the dura mater, which latter, I was obliged to ligate, I sponged out the wound gently with a soft sponge, and proceeded to the removal of the fragments of the internal table, which were six in number and formed a piece of much larger dimensions than the outer, shelving in some distance under the outer, sound table. The dura-mater was slightly lacerated about the centre of the wound, but no cerebral hernia presented. I searched around carefully under the shelving bone with my finger, and removed all the loose bits I could find. I then dressed the wound with a little dry lint, brought the flaps together partially, and applied a compress and light bandage.

In about twenty minutes afterwards, his pulse began to improve, and his breathing became more regular and tranquil, nature expressing herself as relieved in tones that were perceptible to us, and encouraging. I directed warm applications to his feet, sinapisms to his legs, and the administration of an enema, and left him for the night, with a full knowledge of the treache-

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rous nature of his injuries, and with but a gloomy prospect of his recovery.

On visiting him next morning—Nov. 2d—I found a gentle, but steady development of vital action, though he was still unconscious and unable to swallow even a teaspoonful of water. The enema having produced but little effect, I ordered another and more active one. His breathing was calm, his pulse 100, and he had passed his urine during the morning.

Nov. 3d. Rested quietly last night; exhibits slight consciousness this morning, swallows a little milk that I put into his mouth with a teaspoon, and turned over on his side; reaction fair, but not violent.

4th. He is still improving, opened his eyes and looked around solicitously, but cannot speak; takes milk now and then, and seems easy; as his bowels do not respond properly to the enemata, and he is now able to swallow, we gave him calomel grs. v. Enema of castor oil in the evening.

5th. He is more lively this morning, wound depurating nicely; pulse coming up in strength; sensible, and answers yes or no to questions properly; takes milk sweetened with sugar; bowels opened last night.

℞. Hyd. c. mit., grs. vi.
Ipecac. pulv., grs. ii.

M. divid. in chart. vi, one every three hours.

6th. Improving finely. We directed one powder three times a day, for a few days.

From that time forward he steadily improved without an untoward symptom. His right arm was partially paralyzed for a week or so, but then recovered. By the middle of December he was up and about his house. At the present time he is in perfect health, bodily and mentally, and working at his trade.

Remarks.—The points of interest in the above case are too evident to require much comment. 1st. The case appeared as one of concussion alone, and that not very serious to a casual observer. 2d. The length of time elapsing before it unfolded its compound nature, as one of concussion with *compression.* 3d. The extent of the fracture and disparity between the external and internal surfaces. 4th. The favorable recovery, without any undue inflammatory reaction of the injured brain or its

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membranes, followed by the kind healing of the wound, caused by the removal of so extensive a portion of bone.

The wonderful elasticity and recuperative powers of nature were well displayed in the above case; thus encouraging and lighting up the saddened heart of the practitioner in his conflict with one of the most gloomy and desperate injuries to which his fellow man is subject. Such cases teach us that Nature is the archiater after all, requiring from man but his assisting lever, when enfeebled. Even then, he must be careful what point he selects as his fulcrum, and apply his force with such nice discrimination, as not too recklessly to shatter her tottering fabric.

I must avail myself of this opportunity to acknowledge the able assistance rendered me, during the management of the above case, by Dr. S. T. Charlton, an intelligent physician of our place; and also by Mr. J. Cameron Jones, my much esteemed and attentive pupil.

Feb. 9th, 1855.

Extraordinary case of Opium Eating Cured. By W. H. Myers, of Loudonville, Ashland Co., Ohio.

In the habitual use of the narcotic opium, nothing is more striking than the facility with which the system bears its gradual increase, each successive dose being less efficient than the preceding one, if delayed until the action of the former has terminated. The truth of this will be made sufficiently evident by the following case:

In the fall of 1853, a physician came under my observation who had habitually used opium as a stimulus for *six years*. Its effects during the first part of this period were, as usually described, exhilarating; a calm, cheerful, hopeful state of feeling existing, with freedom from care, dreamy reverie, and pleasing hallucinations. But these had long ceased, and he was now suffering pangs from the same drug that had afforded him such varied enjoyment, all its pleasures being replaced by morbid fancies and sensations of the most unpleasant character. At this time he was using the enormous quantity of from *fifteen to eighteen* grains of the sulphate of morphia in twenty-four hours, taken at intervals of four

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hours and continued during the night. Thus, the repetition of the stimulus followed so quickly and regularly, as to anticipate the appearance of the consecutive debility, the unavoidable consequence of its abstraction.

I will only describe a few of the most prominent symptoms:—one of these was a constant and fixed delusion, presaging impending death; this feeling haunted him day and night, accompanied with a morbid dread, sometimes definite and often ill defined. His behaviour, temper, spirits and conversation partook of this predominant belief, with a disposition to intrude the subject which was the basis of his thoughts. Accompanying this condition was a belief that his intellect was disordered, or becoming so; loss of control over his mental operations; neglect of business; walking restlessly at night; sleep almost banished; terrific and distressing dreams; altered sensibility; numbness; pricking in the hands and fingers; tinnitus aurium; hallucination of voices and conversations in his presence; muscæ volitantes; phantoms or fancied visions; vertigo; muscular contractions; uncertain walk; diminished strength; inability to stand or rise in bed, and varied action of the heart as regards its frequency, and force. The abdominal symptoms were sense of sinking, weight, fulness and dragging, accompanied by unusual constipation, and a distaste for food.

After treatment had commenced, a set of new symptoms were developed; his bladder, became excessively irritable, acompanied with profuse diarrhœa and gastric disturbance, nausea, vomiting and great prostration; with a disagreeable sense of formication in the scalp. While in this condition attempts to quit the injurious habit were made, but ineffectually. A number of physicians of celebrity were consulted, who all suggested a recourse to substitutes. Extracts of belladonna, aconite and cannabis were tried, but without deriving the least benefit from their use. Reason was already partially dethroned, and death seemed inevitable. After all these repeated failures I addressed a letter to Prof. Dunglison, of Philadelphia, asking his advice, who, in reply, wrote as follows:

Philadelphia, February 17th, 1853.

Dear Sir,—There is no safety for your friend, except in a fixed determination to diminish daily the amount of the narcotic, not by guess,

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but by absolute weighing out of the daily allowance. To give it up all at once, would be followed by most distressing phenomena; but if he gradually diminishes the amount consumed, the privation may be tolerated, and the pernicious evil be ultimately got rid of. It will require, however, the most *dogged* resolution to carry into effect this plan, otherwise it must fail. In the depression and sinking that may arise, he may have recourse, three or four times a day, to from forty to sixty drops of the *spiritus ammoniæ fœtidus*, of the London and Edinburgh Pharmacopœias, formulæ for which are to be found in the Dispensatory of the United States. The further details of treatment will suggest themselves to you. The most important thing is to establish a clear indication, and to let nothing interfere with its being energetically fulfilled. No substitute can be used for the narcotic which will not be ultimately as injurious; and experience has taught me that the plan I have suggested to you has been entirely satisfactory and successful. That it may be so in the case on which you consult me, is the sincere wish of your obedient and humble servant,

ROBLEY DUNGLISON.

This plan, persevered in with the most determined resolution, diminishing, almost imperceptibly, the dose from day to day, was entirely successful in twenty weeks in reclaiming our victim, and restoring him to the society of his friends in full possession of his faculties and in the enjoyment of good health, entirely cured of the habit of opium eating, and free from all its evil effects.

Medicinal Effects of Saleratus.

Our attention has been directed to a paper in the *Boston Medical and Surgical Journal*, by Dr. W. A. Alcott, entitled, "Mortality among Children," wherein the author attributes the great mortality of children under five years of age, amounting to three fifths of all who die, principally to the use of saleratus in bread. This bold assertion is made without even an attempt to substantiate it by facts, other than the statement that Orfila places it in the list of irritant poisons. This, undoubtedly, is true, but the same list contains nearly all the saline substances that are in general use, common salt not excepted, several cases being mentioned by Orfila where death has resulted from the excessive use of salt itself.

Criticism upon such idle statements would not justify the use of the space required in a medical journal, if the readers of the original articles were medical men alone; but the various

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periodicals and newspapers of the day greedily copy remarks of this nature, since it cannot but excite a lively astonishment in the minds of their readers that they have survived the frequent use of such deadly poisons. It is needless to say that nineteen-twentieths of those who use this substance are perfectly ignorant of its nature and properties, merely knowing that saleratus is saleratus, and are quite as ready to believe it to be a poison as they would tartar emetic or blue vitriol. It is, therefore, due to the public that they should know whether they have been needlessly alarmed by the vagaries of a visionary, or whether they have indeed for years been slowly poisoning themselves with this drug.

Before entering upon any investigation into the properties of this substance, it is necessary to give a few passages from Dr. Alcott's paper. He observes:

"In regard to the causes of this fearful and fearfully increasing infantile mortality—for there are doubtless more causes than one—I have something to say, suggested by the study of the subject for thirty years or more. And though I lay no claim to infallibility, I do greatly desire to be heard.

"My first suspicion rests on the too free use of alkalies among us. I say 'the too free use,' because, although I should not be likely to encourage their dietetic use, in any quantity, or in any circumstances of *health*, yet there is certainly a wide difference between excess and moderation. It is one thing to use just so much saleratus as shall be neutralized by the acetic acid it meets with, so as to leave no residuum but a little acetate of potash, and quite another to use the alkali so freely that a portion of it remains in the stomach and intestines unneutralized. Yet the latter is an every-day occurrence. Our children, generally, have their first passages in a state of sub-inflammation, from this and other kindred causes; and though the use of mild acids, especially those of fruits, may do something to soften or mitigate the condition, is it any wonder that bowel complaints, in these circumstances, become very severe and unmanageable? Is it any wonder that two-fifths, and in summer three-fifths of all who are born, die under five years of age?"

"My deliberate conviction is, that the families of twenty millions of people in our United States population—amounting to about four millions—use the average quantity of five pounds of this alkali yearly—or one pound to each individual. This is an aggregate of twenty millions of pounds. How much of this goes into the alimentary canal and courses its devious way without meeting with any free acid or other substance calling into play new affinities, cannot easily be told. In these days of excess in its use, I fear one-half. But to be safe, I will place it at one-fourth. Is it so, then, that the lining membranes of our people—

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our children among them—must be irritated yearly by 5,000,000 pounds of uncombined, unneutralized saleratus? The very thought is enough to make one shudder!

"From ten to twenty grains of this substance is sometimes put down in our medical dictionaries as a dose. Place it at thirty. Do we swallow 960,000,000 doses of medicine a year, in this careless, uncalled-for manner? What effect can medicine be likely to have, when given in an emergency, to children who have been irritated day after day, and year after year, in this way? I have said irritated—not poisoned. Yet Orfila, I find, calls saleratus an irritating poison, and gives us a long list of its terrible symptoms."

Dr. Alcott forgets that at least one half of the number of deaths here cited must have been of children under one year of age, most of whom have never eaten bread of any sort, *with* or *without* saleratus; it consequently cannot have been the exciting cause in these instances.

The substances sold under the name of saleratus, may be divided into three varieties, viz.: potash saleratus, soda saleratus and bi-carbonate of soda. The latter is met with generally in a state of almost absolute purity. The other two consist of variable mixtures of carbonate and bi-carbonates of the above named alkalies, contaminated with the impurities existing in the materials from which they were prepared, *i. e.* pearl ash and soda ash.

Soda saleratus contains, generally, a small percentage of sulphate of soda, and a large proportion of common salt. Potash saleratus contains all the saline ingredients capable of existing in the infusion of wood ashes, from which it is derived, principally sulphates, chlorides and phosphates of the alkalies, and traces of the corresponding lime salts. It is unnecessary to take their medicinal action into account, being contained in too small amount to exert any appreciable action upon the animal economy. We need, therefore, only direct our attention to the effect of the carbonates and bi-carbonates of potassa and of soda, bearing in mind, however, that in all cases where saleratus is used judiciously, that is, in combination with an acid in the ratio of their respective equivalents, or the acid slightly in excess, the salt present in the bread must necessarily be a compound of the acid used; consequently, the acetate, lactate of soda or of potassa, in place of the carbonates of the same basis; the acetic, lactic and tartaric acid being almost exclusively the only ones ever present,

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whether intentionally added, or present in the form of sour flour or milk. All of these salts above named are *very* gentle purgatives; most, if not all, of them possessing less action, and requiring to be administered in a larger dose then even common salt itself, (from ½ oz. to 1 oz.) No injurious effects can possibly, therefore, arise from their constant use in the small quantities here occurring.

From 30 to 40 grains of saleratus is more than sufficient for raising bread made from two pounds of flour, or enough for a meal of twelve persons. Taking the larger amount, 40 grains, each person will consume about 3⅓ grains at once. Supposing, from carelessness or ignorance in the use of it, that the whole amount should remain unsaturated, and consequently remain in the form of carbonate or bi-carbonate, could the above quantity produce any bad effects?

It is well known that the nature of the action of most saline substances, depends much upon the state of concentration of the solution in which it is exhibited. Golding Bird* says:

"When, therefore, saline substances, especially, are intended to be absorbed and ultimately to reach the kidneys, it is necessary that the density of their solutions should be much below 1.028; the proportion of solids dissolved in the aqueous vehicles prescribed being always less than five per cent. Daily experience in the employment of remedies will show the importance of this law in a therapeutical sense. Thus, a tolerably strong solution of the tartrate, or acetate of potass, will altogether escape the absorbents; indeed, so far from being imbibed by the capillaries, it will actually excite an exudation of water from these vessels in the stomach and small intestines, thus becoming diluted by exosmosis, and a sensation of thirst is excited, by which the patient is compelled to drink for the purpose of supplying the water removed from the blood by exudation. In strong solutions, the salts alluded to, stimulate the bowels and purge. They are, moreover, said to act as *hydragogue* purgatives, producing watery motions—a fact also capable of ready explanation on physical laws; exudation of water from the exhalents (capillaries) occurring, on account of the density of the saline solution traversing the intestines, just as exosmosis was produced in the experiment of the tube of water immersed in syrup. We can hence readily perceive why half an ounce of acetate or tartrate of potass will purge, and a scruple of either, excite diuresis."

Dr. Parkes, in his valuable paper upon the action of liquor potassæ in health and in disease, remarks:

* "Bird on Urinary Deposits," 2d American Edition.

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"The bicarbonate of potash, therefore, had the following action: it passed off very rapidly and in part as carbonate or bicarbonate, with the urine, and therefore, increased the amount of the soluble salts; it augmented, also, the water by 50 oz., (the calculation was made for twenty-four hours,) the organic solids by 264 grains, the sulphuric acid by 7 grains, and the sulphur by more than 5 grains.

"The action of the bicarbonate of potash appears so far to differ from that of the liquor of potassæ that some considerable portion passes off unchanged in the urine; whenever this is the case, the urine is rendered alkaline. This passage occurs with such rapidity, that if it is wished to keep up the increased alkalinity of the blood, the salt must be given very frequently, (every hour or so,) if given only every four hours, in less than two it is excreted, so that for two hours the blood is unacted upon."

In the above experiment ʒiv. were administered in the space of 13 hours, being about 60 times the quantity that would probably be taken in bread during the same time. It must now be evident that no *constitutional* injury could arise from the use of alkalies in small quantities. With regard to the action exerted by the irritant properties of the alkalies upon the coats of the stomach and intestines, Dr. Parkes' experiments with liquor potassæ are most conclusive. We extract his results at length.

"If this remedy be taken soon after meals, its action is that of an antacid. It combines with hydrochloric or with lactic acid, and then, doubtless, passes into the circulation. What appreciable effect it now produces is not indicated in the tables above given, but it does not increase either the water, solids, or sulphuric acid of the urine. If the liquor potassæ be taken into an empty stomach, it passes unneutralized into the circulation, and probably through the veins; in so doing it must produce an effect on the walls of the capillaries and small veins; but the extent of this cannot be known. As much as ʒij have been taken with only 4 oz. of water, without causing epigastric pain or uneasiness (although it produced considerable temporary scalding of the mouth and throat), and without apparently producing any local effects in the stomach. In, usually, from thirty to ninety minutes after its entrance into the circulation, an increased flow of slightly acid urine occurs, which contains the whole of the potash, organic matter differing considerably from that of ordinary urine, and a relatively large proportion of sulphuric acid; the phosphoric acid and the chlorine are less changed. Perhaps an organic acid (not uric, and probably not hippuric) is also present.

"The explanation of these facts is, that an albuminous compound, either in the blood itself, or in the textures, has become oxidized; its sulphur, under the form of sulphuric acid, has united with potash, and, with possibly the changed protein-compound, is poured out from the kidneys. This oxidizing effect of the liquor potassæ is no doubt assisted.

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by exercise, and by copious draughts of water; but in the above experiments, exercise and fluid were abstained from, in order not to complicate the results. The amount of albumen or fibrin destroyed by one drachm of liquor potassæ cannot be considerable, but if the potash were continued in large quantities, oxidation could probably be pushed to any amount. The nitrate and acetate of potash did not in a *healthy system* have the same effects.

"After the increased flow of urine, the quantity passed per hour falls slightly below the standard. It appears to resume its ordinary composition, but its exact condition at this period has not been determined. Some observations on urine in disease would lead me to infer that the uric acid will be found to be increased.

"Such were the effects of liquor potassæ on the urine. The effect produced on other excretions was not obvious. The skin and the intestines appeared quite unaffected, and as all the potash was found in the urine, the reason of this is easily understood. In most of the experiments there were no subjective symptoms of any kind. On two occasions, there was rather sharp frontal headache, languor, depression, slight lumbar pain, and aching of the legs, after the large flow of urine. On the night of the 15th, when the flow of urine, which was proceeding at the rate of ℥iss per hour, was augmented in two and a half hours by ℥xiv, and no fluid was supplied to the system, the pulse became perceptibly small (almost thready) and slow; it remained equal and regular—there was no thirst, no shivering, and no nausea; the skin was dry and warm. In six hours the pulse had quite regained its force and frequency, and the other symptoms had disappeared without any fluid having been taken.

"After the experiments were concluded, the general health did not appear impaired; it was, if anything, better than usual."

When we recollect that liquor potassæ, (solution of hydrate of potassa,) in its action upon animal tissues is, without exception, the most powerful chemical agent that we possess, rapidly distroying and dissolving almost all organic structures *out of the body* with which it comes in contact, we can judge how slight must be the chemical changes produced upon the mucous membranes by the bi-carbonates, being as they are, almost devoid of all alkaline reaction.

If the ill consequences resulting from careless and bad cooking were properly estimated, it would be found that much disease might be traced to sour or badly fermented bread. Dr. Drake, in the first part of his valuable work on the "Diseases of the Valley of America," attributes many of the prevailing ailments to the following, among other causes.

"When the dough for leaven, by the excess of panary fermentation,

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has been charged with acetic acid, that product is not in general neutralized by carbonate of potash or of soda, but the bread is eaten sour."

It is unnecessary to deduce further proofs of the slight effect produced by the salts above mentioned. There can be but little doubt that the dangerous properties attributed to saleratus by some persons, exist entirely in their imagination. C.

BIBLIOGRAPHICAL NOTICES.

Grandzuge der Pathologischen Histologie. Von Dr. CARL WEDL. Wien: 1854.

Outlines of Pathological Histology. By DR. CHARLES WEDL. Vienna: 1854.*

Pathological Anatomy has of late years received much valuable aid from microscopical and chemical research; indeed, the coarser study of the pathological anatomy of the organs has been rapidly yielding to the minute study of the pathological tissues, or Pathological Histology. Yet, notwithstanding the fact that numerous observers are engaged in the study of this new and interesting branch of science, we have up to the present day not been in possession of a systematic treatise on the subject, as all observations are recorded in separate monographs, or are found scattered throughout the treatises on General Pathology. Dr. Wedl, the author of the volume now before us, determined, therefore, to write a work indicating the "Outlines" of Pathological Histology, and to base it mainly on personal observation; a task which enormous industry and vast opportunity alone could have brought to anything like a satisfactory termination. Of the possession of the former, the work itself is the best evidence, the latter was supplied by the extensive dead-house at Vienna, which has been rendered so famous through the labors of Rokitansky, and to which Dr. Wedl has been for years attached.

* We are bound in courtesy towards the author to state that the review of this work, a copy of which he politely forwarded to us, has been by accidental circumstances prevented from appearing in print at an earlier period.—REVIEWER.

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The work itself is a large octavo, divided into two parts: one discussing General, the other Special Pathological Histology. The first part extends over 108 pages, and is taken up with a consideration of the general pathological conditions of the circulation, and with the formation, in abnormal developments, of cells, fibres, areolar tissue, papillary excrescences, vessels and cysts. The author's views are here well and clearly stated; this whole part, indeed, besides containing many valuable original observations, may be considered as an admirable *resumé* of the present state of general pathological histology. As not the least important chapter in it, we regard the excellent introduction, comprising an account of the means and the methods to be employed in the investigation of pathological tissues. Yet we cannot help stating this part of Dr. Wedl's work to be inferior in value as an original production to the second division, or the one treating of Special Pathological Histology. This is again subdivided into six groups. In the first, or "Inorganic Formations," the different crystals and concretions met with in the human fluids are described. The second group includes the "Atrophies" of tissue and of the blood; the third, the "Hypertrophies;" the fourth, the "Exudations" and their products; the fifth, the "New Formations," as pus, tubercle, bone, etc., whilst the sixth group is devoted to a description of the "Vegetable and Animal Parasites."

Having thus indicated the general contents of the volume before us, let us now examine more closely some of its more important parts. The basis of Pathological Histology, after all, must be the study of the cells, and the ultimate end which pathologists must strive to reach, will be to determine the changes which imperfect nutrition, and other causes, produce on the cell-elements and the tissues they form. Let us, for example, take up the most frequent of the "Atrophies" occurring in cells or in any formed tissue, and dependent upon faulty nutrition, viz., *fatty degeneration*. This in cells consists of the appearance within the walls of a quantity of a fine molecular fat, or sometimes even of distinct oil-globules. This deposit results in an atrophy of the cell, and is generally supposed to affect primarily the nucleus, which it causes to shrivel up and disappear. This primary atrophy of the nucleus Wedl denies, and every microscopist must agree with him at least in this particular, that it is not uncommon

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to meet with whole groups of cells nearly over-distended by fatty infiltration, in which the nuclei are as distinct as in normal cells, and perfectly unaltered in shape. In determining this point, it is of the greatest importance to bear in mind that the cells in many organs contain normally much oil. Fatty degenerations of tissues occurs most frequently in muscular fibre and in the blood-vessels. The fatty infiltration and consequent softening of the coats of the capillaries of the brain is probably a not unfrequent cause of apoplexy.

The formation of *vessels* in pathological tissues Wedl describes as occurring free in an exudation, without any necessary connection existing with previously formed capillaries. The first step, he thinks, is the formation in this exudation of branched cells, whose processes then becoming connected, the walls are absorbed, and thus a communicating system of primary capillaries is developed, from which then again others may arise. If this view be correct, the process of formation of vessels in pathological tissues, would correspond closely to the development of vessels which Schwann and Kölliker describe as occurring normally in the tail of a tadpole; it would indeed be but a slight modification of the old view of John Hunter on the subject. The diameter of these newly-formed vessels is generally greater than that in those of normal tissue; in structure they consist of a layer of fibre-cells with oblong, longitudinally arranged nuclei. In the arachnoid, this simple structure of the vessels is, remarkably well shown, as here they are more like capillaries, and never possess either a longitudinal or annular fibrous coat.

A subject which Wedl has evidently carefully investigated is the formation of *cysts*. The word cysts he restricts to an

"excessive augmentation of the spaces in areolar tissue with a papillary new formation. Hence cysts are more readily seen in organs in which new formations of fibrous tissue and of papillary excrescences frequently occur, as in the thyroid gland, mammary gland, ovary, kidney, etc. Yet this does not exclude their formation in any organ, only they will be more rarely seen in parts, in which new formations of areolar tissue and papillary excrescences seldom occur. We regard, therefore, cysts never as primary, but always as secondary formations." (p. 102.)

Now although this view of the nature of cysts may be convenient to explain their formations, we cannot regard it as altogether based upon strict pathological research. Primary cysts, or as

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Paget* terms them, "autogenous cysts," occur in parts where certainly at first no fibrous tissue existed; thus we see cysts originating in soft cancerous tumors, evidently from the transformation of the morbid structure, and not from the expansion of the areolar spaces of the fibro-cellular tissue. In their minute structure, cysts consist of an external coat of fibrous tissue, lined by a layer of cells like those of pavement epithelium. This epithelial lining is, according to Rokitansky†, frequently absent in large cysts. Wedl describes it to be invariably wanting where parts of the fibrous coat project into the cyst-cavity. Seated on these projections are sometimes "dendritic" formations, which Wedl has observed to acquire sometimes so large a size as nearly to fill the cavity of the cyst, and by their transformation into smaller cysts, (in a manner presently to be described,) to give rise to compound cystic growths. In the external coat, different organs, as hair, teeth, etc., may form, which, by subsequently projecting into the cyst, cause the singular phenomenon so frequently seen of cystic growths containing, as it were, these structures.

As we have already stated our author believes cysts to be invariably secondary formations. He conceives first an exudation to occur from the blood-vessels into the areolæ of the fibro-areolar tissue. This exudation is then transformed into fibre-cells and vessels, whilst a fresh exudation completely fills up the space in the areolar tissue. The fibre-cells in the walls of this former space are now further developed into papillary excrescences with dendritic vegetation, whilst at the same time the effused blastema forms epithelial cells, which serve as a lining to the minute cyst. This process may be repeated in several areolæ, and a compound cyst results, whilst if the exudation have occurred into a large areola, which encloses smaller, the effused fluid will cause an absorption of their fibrous walls giving rise to one large cyst with irregular projections of the fibrous coat. These observations and the theory based upon them, we find very difficult to reconcile with the theory on cystic formations recently advanced by Rokitansky, (loc. cit.) who, as the result of much careful investigation, declares all cysts to be primitive

* Lectures on Surgical Pathology, Phil. 1854.

† Ueber die Cyste. Vienna, 1852.

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formations, and traces their origin from a nucleus and a structureless vesicle, containing a clear fluid, upwards into a perfectly formed growth.

Amongst the group of "exudations" we find *colloid* mentioned. This colloid, which has again quite recently, through Virchow's discovery, become a substance of such disputed import, is a transparent, apparently homogenous exudation, resembling gelatin, and is mainly found in cysts, especially those of the thyroid gland. Colloid, when it coagulates, presents under the microscope, the appearance of large bodies, consisting of concentric layers of an opaque substance, described by most authors as "concentric colloid-corpuscles;" by Kölliker and Virchow under the name of "corpora amylacea." The distinguishing micro-chemical reaction of these corpuscles is, that they are not acted upon by acetic acid nor diluted alkaline solution, whilst strong alkalies generally dissolve them. Wedl has met with this exudation in many tissues and fluids. He distinguished round colloid-corpuscles, distinctly granular, and possessed, towards the circumference, of radiating striæ, in cysts of an atrophied kidney, also (although in this case they were more hyaline and oval) in an inflamed choroid coat after the removal of the pigment. As belonging to colloid he also enumerates those peculiar reddish, concentric bodies which Hassall has depicted as existing in the prostate gland of aged people, but which, long ago, Virchow proved to be a proteinaceous substance, analogous to that found in the seminal fluid. He further classes as colloid the corpuscles found in the peculiar pathological condition known as "waxy spleen," and also the corpora amylacea of the brain.

It will be seen from this but partial enumeration of the corpuscles which Wedl has grouped as colloid, that he considers this exudation to be unusually prevalent in pathological productions. We doubt not, however, that many substances which are thus considered colloid, are, in reality, concretions of different substances. We have already indicated, that the corpuscles in the prostate are proteinaceous, the recent discoveries of Virchow* permit us further to state that the corpora amylacea of

* See Virchow's Archiv., Vol. vi., 1, 2, 3; and Medical Examiner, 1854, Vol. x. pp. 267 and 333.

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the brain and the corpuscle in waxy spleen do not belong to the colloid group, but are in reality substances like vegetable cellulose, for on addition of iodine and sulphuric acid they assume the peculiar characteristic violet color of this substance. That all the "colloid" corpuscles met with in other situations are, on the other hand, not cellulose, is nearly settled. Virchow tested by iodine and sulphuric acid the concentric bodies in the concretions of the prostate and of the vesiculæ seminales, and they remained unchanged, whilst again Busk* and Donders,† who repeated Virchow's observations on the amylaceous brain-matter consider his "cellulose corpuscles" to be starch granules, and Meckel‡ affirms them to be cholesterine. Now from this chaos of conflicting opinions to which Virchow's discovery has given rise, we must look to chemistry to extricate us, yet we are already justified in concluding that the corpuscles which have hitherto been described as colloid, are in reality masses or crystals of many different substances, including albuminoid masses, starch-granules, and cellulose.

The subjects we have discussed are for the most part treated of in the first division of Dr. Wedl's work; the second part, whose contents we have already indicated, is replete with many valuable original observations, but our space compels us, instead of following the author throughout in his descriptions, to consider merely one of the most important of his groups, the "New Formations." These Wedl has classed under ten heads; first, the granular cells and masses; the second, pus; the third, tubercle; the fourth, new formations in typhoid fever; the fifth, new formations of fibrous tissue, as on the skin and in the different organs; the sixth, new formations of fatty tissue; the seventh, cholesteatoma; the eighth, osseous and cartilaginous new formations; the ninth, formation of tooth substances; and lastly, the tenth, cancer. Now amongst these, again, the formations which, on account of their frequent occurrence and importance, recommend themselves more particularly to the attention of the pathologist, are pus, tubercle, typhoid fever products and cancer.

* Microscopical Journal, 6 Jan., 1854, p. 101.
† Nederlandsch Lancet, 1854.
‡ Berliner Annalen, 1854.

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Pus, Wedl regards, and he agrees with Vogel, Paget and nearly all modern observers in this particular, to be a true degeneration of an inflamatory plasma, and not simply, as frequently supposed, an increase of white corpuscles of the blood. Mucus, as it is met with in pathological products is but modified pus. It contains more mucin in its composition, but the corpuscles are identical, since acetic acid will render nuclei apparent in both.

Formerly all small elevations occurring in any tissue were denominated *tubercle.* Now we design as tubercle, masses analogous to those found in the lung, which are clinically connected with a certain set of well-marked symptoms. The form tubercles present is very various. Some are small grey elevations, others distinctly isolated yellow masses, some are really infiltrations into tissues, others are merely loosely surrounded by the parts in which they are deposited. Yet all these varieties agree in this particular, that they never contain vessels, and that they consist microscopically of granules, a firm proteinaceous blastema in flakes, of nuclei and imperfectly formed granular bodies and cells. The difference in their external appearance led Rokitansky to consider grey and yellow tubercles as two distinct varieties of fibrinous lymph, and induced Robin to advocate the singular view that tubercles are never grey, but that true tubercular matter is always yellow. The difficulty of distinguishing between tubercles and some forms of degenerate lymph, and arrested cell formation is sometimes very great; and, in consequence, many pathologists have sought for special corpuscles by which tubercle might be recognised. Thus it was that Lebert gave the name of "tubercle corpuscle" to the peculiar irregular granular bodies without distinct nuclei and uninfluenced by acetic acid, so frequently met with in tubercular masses. Wedl does not consider these bodies of much diagnostic importance, for he affirms that he has met with the same bodies in the products found in the intestines in typhoid fever, and regards them only as cells arrested in their development. He considers, indeed, the microscopical diagnosis of tubercle only possible by a system of microscopical exclusion.

*See Bernard and Robin on the Blood. Phila. 1854.

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"Positive, characteristic elements tubercle does not possess. The microscopical diagnosis must therefore be made by exclusion. If we meet with a pathological new-formation consisting only of the above named constituents and fully formed cells of various shapes, if blood vessels or blood spaces, or a fibrous stroma enveloping the cells be absent, we are sure that it is a pure tuberculous formation we have before us. If, on the other hand, the imperfecly formed elements are only found in part of a new formation, for example, of a cancer, while perfectly developed cells of different shapes, along with blood vessels and areolar tissue are seen in other portions, we would regard this formation as a cancer, in part of which the organization had not progressed very far, and had remained, as it were, stationary, in the same low grade as it does in the formation of tubercle." (p. 367.)

When tubercle has existed for any length of time, its general tendency is to soften, or else it changes into a calcareous substance. Softened tubercle resembles pus, but does not contain the same corpuscles as the latter; for, examined microscopically, it consists of molecules, oil globules, free nuclei and imperfectly developed cells. In calcified tubercle, Wedl has found, besides the calcareous salts deposited in the centre of the hardened mass, oil globules, brownish pigment and crystals of cholesterine.

As closely connected with tubercle, both in regard to its mode of development and structure, Wedl describes the *deposits* that take place in *typhoid* fever in Peyer's glands, in the mesenteric glands, and between the mucous and muscular tissue of the intestine. The elements he has observed in these infiltrations are cells 0.008 to 0.024 mm. in size, of a roundish form, and containing one or sometimes several oval nuclei. These cells also enclose many fine granules, sometimes, also, oil globules, which conceal the nucleus and fill up the whole of the interior of the cell. Besides these roundish cells, which are the most abundant, he finds in typhoid fever infiltrations, many spindle-shaped cells with large oval nuclei and nucleoli. In many cases, instead of masses of fully developed cells, Wedl states that he has met with granular bodies, similar to the ones Lebert has described as "specific" tubercle-corpuscles. On the surface of the ulceration, the organic new-formation is not distinct. Here nuclei of varying size and a few oval cells are found imbedded in a molecular mass containing also fat-globules.

The last of the new-formations which Wedl describes is *cancer*. We cannot follow our author in his elaborate description of the

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various forms of cancer met with in the human economy, but will merely state, that he is one of those who deny the specificity of the cancer cell. The microscopical diagnostic marks of cancer on which Wedl seems to lay most stress, are the study of the evolution or involution of the cells, or in other words, their vital phenomena, their growth, their metamorphosis, their multiplication, and the formation of other tissues in the morbid structure. Without entering here into the much vexed question of the cancer cell, we would yet, in this particular, venture to suggest to the author, the employment in his investigations of higher magnifying powers than he seems to have used.

If in conclusion we were called upon to state our impression of the general merits of Prof. Wedl's work, we must express the sincere pleasure we derived from its perusal. The work is, as far as we are aware, the first that has as yet appeared upon pathological histology, but independently of that, it will always retain a high stand on account of the many original and carefully made observations it contains. The style is plain and distinct, the wood-cuts are the best we have seen anywhere, but in the getting up of the book we miss much a proper index.

D.A.C.

A Practical Treatise on Foreign Bodies in the Air Passages. By J. D. Gross, M. D., Professor of Surgery in the University of Louisville, &c. With illustrations. Philadelphia: Blanchard & Lea, 1854.

It is rather surprising, considering the number of monographs which we possess on almost every subject, that no complete one has ever appeared, in any language, on foreign bodies in the air passages. The only paper mentioned by Dr. Gross as even approaching such an attempt, is the "Memoir on Bronchotomy," by Mons. Louis, published in 1759, in the Transactions of the Royal Academy of Surgery. Celebrated as this paper was in its day, few practitioners, we suspect, knew of its existence, much less were able to use it, as a work of reference, previous to its mention by our author. Several papers, it is true, have appeared in Great Britain, upon the subject; from none of these, however, can much information be obtained. A short memoir, by Dr. H. G. Jameson, of Baltimore, published in the *American Medical*

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Recorder, is spoken of as being, for a long time, one of the best accounts of the subject in the English language. When we consider the great need of such a work, the comparative frequency of such accidents, the general ignorance of the symptoms they cause, and of the proper medical and surgical treatment to be pursued, we cannot too highly estimate our obligations to the author for the able and elaborate treatise he has given us. His zeal and industry in collecting, arranging and analysing the numerous cases, scattered through the medical journals of this and other countries, in addition to those which now, for the first time, are given to the profession, are deserving of all praise. We have read his treatise through, and we do not hesitate to say that it is in every respect a work, of which, as Americans, we have great reason to be proud.

Chapter 1st discusses the nature of those substances which enter the air passages—the alteration which they are liable to undergo from their retention—their most common situation, and finally, the mode by which they enter and are expelled.

Since the publication of Dr. Gross's treatise, two cases have been recorded which, as they belong to a class not mentioned by our author, we shall briefly mention. One of these was, the introduction, while coughing, of a plug of thick mucus into the air passages of a child, producing the usual symptoms caused by a foreign substance there; tracheotomy was performed in vain, the patient dying a short time afterwards. We record the case in the present number. The other instance alluded to* is that of a lad, eight years of age, who, while playing, was said to have been struck by one of his playfellows. When arrived at his home, a minute or so afterwards, his struggles became so violent that he could scarcely be held. When seen by Dr. Bell, a half an hour after the seizure, his countenance was livid and he was making some feeble struggles, evidently death-throes. Tracheotomy was immediately performed, and artificial respiration afterwards attempted, but without effect, as he gave but two gasps after the operation. Upon examination a diseased bronchial gland, one inch long, was discovered under the epiglottis, and extending from the rima glottidis into the larynx. It had become de-

* Medico-Chirurgical Transactions, vol. xxxvi.

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tached from its bed by ulceration around it, which opened a way also for its passage into the trachea. The blow complained of was no doubt the means of forcing it from its position *into* the trachea, from which place it was driven into the glottis by strong expulsive efforts.

The case is an exceedingly interesting one, in a medico-legal point of view. Had no autopsy been made, the death would have been attributed to any other cause but the true one, and most serious consequences might have been the result to the boy who struck him, if the case had gone before a jury.

The alteration of foreign bodies in the air passages is of great practical interest to the surgeon. Though many vegetable and animal substances are liable to be occasionally softened and disintegrated by the combined action of heat, moisture and their frequent change of position in the lungs, Dr. Gross very properly reprobates, where the symptoms are severe, the absurdity of trusting to such a contingency. The place where a foreign body becomes arrested will be influenced, materially, by its size, form, and weight. When it is stopped in the larynx it may lodge either in the ventricles or between the vocal chords. It rarely is arrested in the trachea, but, having arrived at its extremity, descends most generally into the right bronchial tube. This latter circumstance is owing to the fact that the septum, at the root of the trachea, is not in the central line, but to the left of it. Hence, bodies, particularly those of considerable bulk, as they strike upon this ridge, will naturally fall over to the right side.

Most substances enter the air passages through the glottis. They may obtain entrance there, however, in many other ways; through the pharynx by ulceration, by wound of the throat, and through the walls of the chest. Cases are given of these different modes of admission.

Expulsion of foreign substances generally takes place at the glottis; occasionally, however, they are discharged through an abscess or fistula in the walls of the chest. Dr. Stanski asserts that he is acquainted with as many as twenty cases where such a result took place. The author reports an interesting case, where a sprig of a juniper tree, which had passed into the windpipe of a young child, was discharged a year afterwards, through

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an abscess which opened between the fifth and sixth ribs, near the nipple. The child soon began to improve, and finally recovered, with the right side of its chest much contracted.

Chapter 2d.—One of the immediate effects sometimes produced by the entrance of a foreign body into the larynx is sudden death. The respiration is arrested in a moment, as effectually as from a dose of prussic acid. Drunken persons, or persons laboring large under delirium tremens, it is stated, sometimes die in this way while vomiting. Disease of the epiglottis, also, renders the person having it very liable to such a termination. Occasionally, the sudden ingress of blood into the wind-pipe, during operations upon the mouth or throat, or even when tracheotomy is being performed, produces suffocation, which soon terminates in death. Two singular instances are related where blood produced this result. In one of these it poured into the wind-pipe from an ulcerated artery; in the other, the person was suffocated by a large clot from a wound of the neck pressing upon the trachea. Mechanical occlusion of the glottis, caused by the impaction of a large foreign body in the pharynx and œsophagus, is also mentioned as the occasional cause of death, two instances of which are related.

The 3d chapter treats of the pathological effects of foreign bodies. Changes in the structure of the part with which the foreign substances in contact, as well as those in its neighborhood, are stated to be the most common consequences. Occasionally, remote parts of the lung, of the trachea, and even of the larynx, become affected, either primarily or secondarily. Inflammation of the mucous membrane, mostly limited in extent, and ulceration, both of them accompanied by increase, at first, of the normal secretion and subsequently of muco-purulent matter, are mentioned as the lesions most liable to be produced. When the foreign substance is in the bronchial tubes, inflammation of one or both lungs is a very frequent result. When it has been retained for a long time, abscesses are very apt to form and continue to discharge for months and even years.

A deposit of tubercular matter, it is asserted, is sometimes induced in the tissues adjoining the foreign body. Three instances of this occurrence are related, one of which came under the author's own observation. We do not regard any of the

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cases as decisive of this question, as it is quite probable that the tubercular disease may have existed previously in all of them. In many instances, also, we may observe, where the foreign body was retained for years, no such result occurred.

Œdema of the larynx, pulmonary emphysema, enlargement and softening of the bronchial glands, effusions into cavity of the pleura and extensive adhesions between its opposite sides, with thickened false membranes, occur not only where the obstruction is seated in the lungs or bronchial tubes, but also, in many instances, where it has not descended below the larynx or upper part of the trachea.

The symptoms which accompany and follow the ingress of a foreign body into the air passages are discussed in Chapter 4th. These are divided by the author into those which take place at the moment of entrance, and those which arise in consequence of the sojourn of the offending substance. We have no space for an analysis of this or the following chapter, which treats of the diagnosis of foreign bodies. We can only heartily commend them to our readers as containing much instructive matter.

An account of 49 cases of spontaneous expulsion of foreign bodies, followed by recovery, is given in the 6th Chapter. In several of these instances, the substance was not expelled for years afterwards. An extraordinary case is given us where a piece of bone, swallowed by a child three years of age, remained in the lungs for sixty years. During all this period the patient was harassed with cough, profuse expectoration and other serious symptoms, and was at one time so feeble that he was compelled to remain constantly at home for eight years. At twenty-eight years of age his health began to improve, and, though suffering considerable inconvenience, he was able to work from that time forwards for fifteen or twenty years. Sixty years after the entrance of the bone, it was ejected by a violent fit of coughing, its exit being succeeded by expectoration of purulent matter streaked with blood.

Eight instances of spontaneous expulsion, followed by death, follow the above account. Five of these deaths were the consequence of induced pulmonary disease; the other three died from the effects of exhaustion, caused by the constant irritation of the offending substance.

Medical treatment, to promote the expulsion of foreign sub-

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stances as well as to relieve the evil effects which their presence induce, is treated of in Chapter 7. Dr. Gross condemns the use of emetics and sternutatories, believing that much valuable time is lost in waiting for their effects. Three cases only are given where the expulsion of the foreign substance followed the action of an emetic, while 46 cases are mentioned in a table, in which no result was obtained by their exhibition. In several of these cases their action was decidedly prejudicial, and in not a few the patient came near dying from suffocation.

No patient, our author remarks, is safe as long as the foreign body remains in the wind-pipe. Should symptoms of bronchitis or pneumonia supervene, they should be treated by the ordinary remedies. The spasmodic cough, so often present, is more promptly allayed by a sup of cold water than by any other means. If the foreign body should happen to be expelled, he cautions the practitioner not to suppose all danger past, as several instances have occurred where death by pneumonia has supervened in a short time afterwards.

Chapter 8.—Numerous means besides operation have been resorted to, of late years, to promote the expulsion of foreign bodies from the air passages. One of these is inversion of the body. While inverted, the chest and back of the patient are repeatedly and smartly struck with the hands, or with a pillow, to dislodge the offending substance and propel it through the glottis. Several successful instances are given of this mode of procedure. The objection to it is the risk incurred from suffocation. The author advises that a preliminary opening into the trachea be made, as, without this precaution, fatal consequences may ensue. The successful cases recorded are all of heavy bodies, bullets, shot, or coins. Numerous cases are also mentioned in which this experiment was of no use.

Chapter 9 treats of the surgical treatment of these accidents. The only real safety in such cases, consists, according to our author, in bronchotomy. There are exceptions to the rule, but these should not affect our practice. The foreign body is frequently expelled as soon as the wind-pipe is properly opened, being often projected to a considerable distance. Occasionally, the ejection is delayed for weeks or even months after the operation, and, the wound closing, a second, and even a third operation may become necessary, several instances of which are related.

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Owing to the uncertainty of the diagnosis of foreign bodies in the larynx, the author thinks that this portion of the tube should seldom be opened if it be possible to employ tracheotomy. This latter is mentioned as being a most formidable operation, particularly in children with thick, short necks. He says, "I hardly know an operation in all surgery that I would not rather undertake, than this, under such circumstances." His experience has satisfied him that chloroform greatly facilitates its performance.

Numerous and full observations concerning the proper mode of operating; how the foreign body should be extracted and what instruments should be used; the various dangers to which the patient is exposed; the dressing and after-treatment, and the mortality attendant on the operation, take up the rest of the chapter.

Chapters 10, 11 and 12, are filled up with tables and descriptions of cases of laryngotomy, tracheotomy, and laryngo-tracheotomy. 18 cases of the former, 60 of tracheotomy, and 10 of laryngo-tracheotomy are related, where the expulsion of the foreign body was followed by recovery. 4 cases of laryngotomy, 8 of tracheotomy, and 3 of laryngo-tracheotomy were followed by the death of the patient.

In *chapter* 13, three cases are related where the operation of bronchotomy was performed in two instances twice, and in the third, three times. Two of these cases terminated fatally.

In *chapter* 14, several cases of tracheotomy are given, in which no foreign body was found. These cases, it is thought, are much more numerous than our records would lead us to suppose, as many surgeons are very averse to publishing their unsuccessful cases.

Chapter 15 is devoted to the consideration of cases of death without operation, and without expulsion of the foreign body. 21 of these cases are related; many, if not all of them, might have recovered under an operation.

Tracheotomy has been occasionally performed on the inferior animals, instances of which are given in chapter 16. The author regrets that such a proceeding is not more frequently resorted to.

A general summary of the whole subject, containing the conclusions which may be fully and legitimately deduced from a consideration of what he has given us, arranged under diagnostic,

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pathological, therapeutic and operative heads, occupies the last chapter.

The field of enquiry taken up by Dr. Gross, has been hitherto so much neglected, that the thanks of the profession are largely due him for the zeal and care which he has expended on its cultivation. His observations, throughout, are characterized by sound sense, and will still further enhance his reputation as a most judicious and instructive writer. We earnestly recommend its perusal to the profession. The work is courteously and deservedly dedicated to Dr. Norris, of Philadelphia.

Puerperal Fever as a Private Pestilence. By OLIVER WENDELL HOLMES, M. D., Parkman Professor of Anatomy and Physiology in Harvard University. Boston: Ticknor & Fields, 1855.

"This essay," says the author in his introduction to the republication, "was read before the Boston Society for Medical Improvement, and at the request of the Society, printed in the New England Quarterly Journal of Medicine and Surgery for April, 1843. As this journal never obtained a large circulation, and ceased to be published after a year's existence, and as the few copies I had struck off separately were soon lost sight of among the friends to whom they were sent, the essay can hardly be said to have been fully brought before the profession."

To Dr. Meigs' lately published work on puerperal diseases, we are indebted for the republication of this excellent and useful pamphlet. The author, with an industry and zeal worthy of all commendation, has collected and arranged a mass of evidence in favor of the sometimes contagious nature of puerperal fever, which we believe and hope will go far towards acting as an antidote to the baneful teachings and theories of the Jefferson and University Professors of Obstetrics, upon this subject. The opinions of Drs. Meigs and Hodge, as individual practitioners, might with propriety pass without challenge or remonstrance, but in their capacity of teachers, lecturing as they do, annually, to upwards of 1000 students, and thereby promulgating their doctrines, however unsustained, to every section of this vast country, they rise to an importance which renders it the bounden duty of every man, who thinks otherwise, to speak his

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antagonism boldly, however unpalatable to cliques and coteries, and make it heard in every quarter of the land.

Dr. Wendell Holmes has nobly fulfilled this obligation. He has collected a mass of evidence on the subject which cannot be slighted; he has arranged his materials admirably, and followed the statements up by a course of clear logical reasoning, not the less acceptable for being expressed in a polished, scholarly style. The thanks of the profession are due to this gentleman for the re-publication of this brief work; its moral tone and right honest expression of opinion are alike honorable to its author, and elevating to the profession, which is bound thoroughly to weigh its testimony before rejection. Were it a mere jumble of unsupported theories, or had the author, after the fashion of some of his contemporaries, made his facts for the especial convenience of a theory, its consignment to an eternal repose, with many of its generation, would have been strictly just; but sustained as it is, by a long array of illustrious authorities, and by clear logical deduction, sarcasm is futile, and contempt entirely misplaced. Dr. Wendell Holmes carries heavy metal, which will make itself heard and respected even by those great guns that, in full target practice, matutinally explode to five hundred promising young gentlemen.

We do not propose to review Dr. Holmes' pamphlet systematically, or even to indulge largely in quotations; it must be read to be fully appreciated. The following passage, however, so perfectly coincides with our own sense of right, that we cannot resist the inclination to favor our readers with it.

"If the physician does not at once act on any reasonable suspicion of his being the medium of transfer, the families where he is engaged, if they are allowed to know the facts, should decline his services for the time. His feelings, however interesting to himself, should not be even named in this connection.

A physician who talks about *ceremony* and *gratitude*, and *services rendered* and the *treatment he got*, surely forgets himself; it is impossible that he should think of these small matters, where there is even a question whether he may not carry disease and death and bereavement into every one of 'his families,' as they are sometimes called."

The original, as it appeared in the New England Quarterly Journal, has not been altered in a single syllable, but some twelve pages of an excellently written introduction have been

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published along with it, part of which is devoted to Dr. Meigs and his book on Puerperal Diseases, and part to a discussion on Contagion; both subjects are artistically handled. The following passage, in which the author alludes to the cavalier mode in which Dr. Meigs flattered himself he had put him out, is a good specimen of his style.

"One unpalatable expression I suppose the laws of construction oblige me to appropriate to myself, as my reward for a certain amount of labor bestowed on the investigation of a very important question of evidence, and a statement of my own practical conclusions. I take no offence and attempt no retort. No man makes a quarrel with me over the counterpane that covers a mother with her new born infant at her breast! There is no epithet, in the vocabulary of slight and sarcasm, that can reach my personal sensibilities in such a controversy. Only just so far as a disrespectful phrase may turn the student aside from the examination of the evidence, by discrediting or dishonoring the witness, does it call for any word of notice."

Coincidence is the resource of those gentlemen who maintain that puerperal fever cannot be conveyed to its victims by the nurse or attending physician. Of course, Dr. H. has no difficulty in showing the utter weakness of such a position; and in reply to the argument of Dr. Meigs, that a contagious disease needs time for incubation, and that the sudden appearance of the dangerous symptoms in child-bed fever preclude the possibility of its being caused by contagion, mentions numerous instances of the fearful suddenness of some contagious visitations; where the patients were struck down by disease not an hour after having come for the first time in contact with its cause. Instances might have been cited where the germs of the same malady (typhus) have lain dormant in the system for many days. Who can explain the reason of this difference? The bite of the rattlesnake acts almost instantaneously, and has destroyed life in three hours, while the virus of hydrophobia will incubate, as it called, for months. Can all the medical colleges put together tell us why? In the face of such strange variety and seeming contradiction who can pretend, by analogy, to satisfy himself of what contagion is, or what it is not?

Our author says:

"If the medical theorist insists on being consulted, and we see fit to indulge him, he cannot be allowed to assume that the alleged laws of

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contagion, *deduced from observation* in other diseases, shall be cited to disprove the alleged laws *deduced from observation* in this."

Again, speaking with reference to the communication of the disease by third parties:

"It is not necessary to consult any medical theorist as to whether or not it is consistent with his preconceived notions that such a mode of transfer should exist."

These remarks are such self-evident truths that they require no comment.

Dr. Wendell Holmes closes his introduction with the following remarks:

"I trust that I have made the issue perfectly distinct and intelligible; and let it be remembered that this is no subject to be smoothed over by nicely adjusted phrases of half assent and half censure divided between the parties. The balance must be struck boldly, and the result declared plainly. If I have been hasty, presumptuous, ill informed, illogical; if my array of facts means nothing; if there is no reason for any caution in the view of these facts; let me be told so, on such authority that I must believe it, and I will be silent henceforth, recognizing that my mind is in a state of disorganization. If the doctrine I have maintained is a mournful truth; if to disbelieve it, and to practise on this disbelief, and to teach others so to disbelieve and practise, is to carry desolation and to charter others to carry it into confiding families, let it be proclaimed as plainly what is to be thought of the teachings of those who sneer at the alleged dangers, and scout the very idea of precaution. Let it be remembered that *persons* are nothing in this matter; better that twenty pamphleteers should be silenced, or as many professors unseated, than that one mother's life should be taken. There is no quarrel here between men, but there is deadly incompatibility and exterminating warfare between doctrines. *Coincidences* meaning nothing, though a man have a monopoly of the disease for weeks or months; or *cause and effect*, the cause being in some way connected with the person; this is the question. If I am wrong, let me be put down by such a rebuke as no rash declaimer has received since there has been a public opinion in the medical profession of America; if I am right let doctrines which lead to professional homicide be no longer taught from the chairs of those two great Institutions. Indifference will not do here; our Journalists and Committees have no right to take up their pages with minute anatomy and tediously detailed cases, while it is a question whether or not the 'black death' of child-bed is to be scattered broadcast by the agency of the mother's friend and adviser. Let the men who mould opinions look to it; if there is any voluntary blindness, any interested oversight, any culpable negligence, even, in such a matter, and the facts shall reach the public ear; the pestilence carrier of the lying-in chamber must look to God for pardon, for man will never forgive him."

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An Inquiry into the Pathological Importance of Ulceration of the Os Uteri, being the Croonian Lectures for the year 1854. By CHAS. WEST, M. D., &c., author of "Lectures on the diseases of Childhood and Infancy." Philadelphia, Blanchard & Lea, 1854.

The opinion that ulceration of the os uteri is the first in a succession of processes which occasion uterine pain, menstrual disorder, leucorrhœa and other affections of the generative system, being a question on which the profession was much divided, induced our author to put the matter to the test of a rigid inquiry, that he might establish, if possible, its truth or error. The numerous arguments, analogies and facts brought to bear upon the discussion of this question, are arranged under four principal heads, as follows:

"In the *first place*, we may inquire how far these statements receive confirmation from what we know of the anatomy and physiology of the uterus in a state of health.

Still, what answer soever we may receive to this question, it cannot, from its very nature, be conclusive; it may render a certain occurrence probable or improbable, may substantiate or disprove the correctness of certain opinions or explanations, but cannot invalidate the evidence of positive facts.

In the *second place*, we may try to ascertain whether examination of the dead body shows the morbid conditions of the os uteri which have been described to be frequent or rare, slight or extensive; and we may also endeavor to make out what connection subsists between ulceration of the mucous membrane of the os and cervix uteri, and other changes in the tissue of the organ.

It must, however, be borne in mind that many evidences of disease, such as are very obvious during life, may be greatly obscured, or may even entirely disappear after death: and further, that uterine disorders of the class which we are considering, though exceedingly painful, and seriously interfering with a woman's health and comfort, are yet not of a kind to prove the direct occasion of her death. Evidence derived from this source will therefore be open to the objection that it understates both the frequency and the importance of these diseases.

We may inquire, in the *third place*, whether there is any condition in which ulceration of the os uteri comes under our notice unconnected with other disease, and with such circumstances as to admit readily of our observing its character and watching its course and consequences. Such a state of things presents itself to us often in the case of the procident uterus, since the irritation to which the displaced organ is unavoidably exposed has the almost invariable effect of producing ulcera-

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tion of the surface of the os uteri, and the immediately adjacent parts of the organ.

But, whatever conclusions we may deduce from this source they are open to all the objections inseparable from analogical reasoning. The probabilities of certain occurrences taking place in the uterus under other circumstances may be increased or weakened; but the evidence still falls short of absolute proof, either of the affirmative or of the negative of the question.

The *fourth* and most important inquiry of all concerns the frequency of these ulcerations of the os uteri under those circumstances in which they ordinarily come under our notice, and call, or are supposed to call, for our interference. This inquiry, however, must include not only the frequency of ulceration, but also the conditions generally associated with it, and the symptoms to which it commonly gives rise. If the alleged symptoms of ulceration are found to be not rarely present without ulceration is discovered, even where there are no symptoms; or if, in the same case, the ulceration may vary in extent, with no corresponding change in the symptoms; if an indurated state of the cervix exists without ulceration, and ulceration, even of long standing, without induration—the conclusion, especially if supported by the answers obtained to our previous inquiries, seems to me irresistible, that the importance of inflammation of the cervix and of ulceration of the os uteri has been overstated; that they are not the cause of all the symptoms which they have been alleged to occasion, and that, in the treatment of uterine disease, many other considerations must influence us more than the mere removal of ulceration of the orifice of the womb.

If this were proved, it would still remain for us to consider whether, in any case, we may fairly look upon the ulceration of the os uteri as a symptom calling for distinct recognition and special treatment. There are, I am aware, some persons of deserved repute who will look upon this inquiry as superfluous; but, for my own part, I do not conceive that, even if we arrived at a conclusion never so unfavorable to the supposed great importance of ulceration of the os uteri, we should be thereby entitled to regard its symptoms as a mere delusion, its very existence as little more than a figment of the fancy."

The discussion of the above questions occupies the first two lectures. The third lecture takes up the various causes of uterine ailments. These are shown to be frequently independent of local disease, as in the case of chlorosis, of hepatic disorder, of granular disease of the kidneys, or where the affection is dependent upon the rheumatic or gouty diathesis; ulceration of the os uteri, when present in such cases, as well as in those where disease begins in the uterus itself, as in the affections following pregnancy, abortion, delivery, &c., being shown to be of very slight and secondary importance.

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To meet the objections which might reasonably be urged against the above opinions, viz.: that experience has proved that the application of caustic to the os uteri has been followed by very successful results, and that, too, where relief has been vainly sought by other methods, Dr. West suggests numerous explanations, for which we must refer our readers to the work itself.

The injurious effects resulting from the doctrine and practice so ably combatted by Dr. West, are undoubtedly great. We firmly agree with the author that the belief in such a condition as the cause of so many and important mischiefs, is calculated, in fact, must naturally tend to relax the efforts of the practitioner to investigate closely these different affections and their consequences. "He unlearns," as Dr. West very truly remarks, "what physiology might teach him of the uterus and its functions, and sees in all its various manifestations of disorder, the expression of one fact, and one fact alone; namely, the existence of ulceration of its womb and its reactions, first on the uterine system, then on the general health." The very general acceptance of Dr. Bennett's views by the profession, has thus produced a routine practice in these diseases, which has much retarded the progress of true science. Nor should such a result be wondered at; the very simplicity of the pathology inculcated and the easy application of the remedy, involuntarily and forcibly commending themselves to every one desirous of obtaining a ready solution of these often intricate affections.

Nor should we forget to take into account the physiological reaction of the doctrines spoken of upon the susceptible temperament of woman. So important to the mind of almost every female, arrived at the age of discretion, is the rôle played by her sexual system, in the production of disease, that she readily becomes an adherent to the idea that ulceration of the womb is the source of all her uterine troubles. Sinbad's old man of the sea clung not more tenaciously nor more oppressively to his victim, than does this hateful incubus to her disordered imagination, when she is once possessed by it. The mischievous results of such an engrossing, absorbing idea are so admirably and strongly depicted by our author that it must, hereafter, be impossible to ignore its importance, both in the confirmation and augmentation of her disease.

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The innate and thorough loathing with which every right-minded woman must regard the introduction of a speculum into her vagina, with all its attendant mortifications, is another very serious objection to such a proceeding. No lower deep of degradation can well be imagined by a young and innocent mind, than that of having her person thus exposed and commented upon by others. Every instinct of her nature must revolt at such an outrage. Nothing but the most positive necessity can be pleaded as the practitioner's justification for such an act. That it is frequently done, however, where there is no such necessity, we have not a shadow of a doubt. We are happy, under such circumstances, to have such an authority as that of our author, in stating "that the importance of inflammation of the cervix, and of ulceration of the os uteri has been overstated; that they are not the cause of all the symptoms which they have been alleged to occasion; and that, in the treatment of uterine disease, many other considerations must influence us more than the mere removal of ulceration of the orifice of the womb."

The style and language of the lectures are fully worthy of the high reputation of the author. Though discussing a question on which there has been much intemperate expression of opinion, their tone is calm, courteous and gentlemanly. We cannot recal to mind, in fact, any controversial work, which, in this respect, is more deserving of imitation. With the most unfeigned respect for the talents and high character of the author, we sincerely wish for his Croonian Lectures, what they so richly deserve, an extensive circulation.

Report of the Select Committee of the Senate of the United States on the sickness and mortality on board Emigrant Ships. Washington: Beverly Tucker, Senate Printer. 1854.

The Report under consideration is one of grave significance, showing as it does that a large amount of human life is annually sacrificed by the ignorance or cupidity of ship-owners on both sides of the Atlantic. Of no more importance in the eyes of the shipper and his employés than a bale of merchandize, the poor emigrant, frequently predisposed to disease by sorrow and privation, is remorselessly thrust into a space, the cubic dimensions

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of which, in many instances, hardly exceed that alloted to the dead, where the slightest modicum of pure air never enters, and with just sufficient light to render darkness visible. Thus "cribbed, cabined and confined" in their sub-aqueous abode,* eating scanty and half-cooked rations, the exhalations from their lungs and skin, and too often the more offensive excretions of their bodies accumulating around them, it does not surprise us to learn "that of those who embark for an Atlantic voyage on any one of a certain class of ships, one in every twelve of them but steps into a coffin, and nearly nine per cent. will either never reach the promised land or will die soon after."

The diseases which thus almost deciminate the steerage passengers *in transitu* between the eastern and western shores of the Atlantic, are those terrible zymotic scourges, typhus fever, cholera and small pox; typhus being the one to which the emigrant is most liable. If the influences which originate these maladies, or form the chief fuel for their devastating flames, were beyond the ken of the profession, then could we only mourn the impotency of our science; but it being notorious that typhus fever acknowledges no other habitat, and that cholera and small pox commit their most frightful ravages among those subjected to the hygienic privations we have declared to exist in many emigrant ships, we cannot but express our unqualified censure of the owners of such vessels, who, for the sake of a few dollars, would thus consign nine in every hundred of their fellow men to certain death.

That enlightened legislation can easily check this undue mortality it is needless to say, and it certainly is the duty of physicians to urge it. At least 250 cubic feet of space should be allotted to each adult passenger, and a thorough ventilation, and strict cleanliness of person and berth enforced. Both sexes should be compelled to remain as much as possible "on deck," and the beds and bedding should be daily exposed to the open air. The food should be cooked *for*, not *by*, the passengers, and its quality be better than the present law requires. The

*Many passenger ships have three decks, the lowest of which, or the "orlop deck," lies immediately above the kelson, and is thus completely sub-aqueous.

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services of a qualified physician we consider indispensable, and he should be assisted by at least two experienced nurses. These are the chief sanitary regulations necessary for the object in view, and as they are not only practicable but of easy application, we earnestly trust that the government of the United States will promptly enact such laws as will enforce their universal observance.

What to Observe at the Bed-Side, and after Death, in Medical Cases. Published under the authority of the London Medical Society of Observation. Second American, from the Second and enlarged London Edition. Philadelphia, Blanchard & Lea.

We are glad to see that the above most useful and complete work—which should, bye the bye, be in the hand of every practitioner in our country—has reached a second edition. It is creditable to the Profession to find such a book properly appreciated.

The puplishers deserve praise for the excellent style in which it is issued. Its paper and type are unexceptionable.

Principles of Physiology; designed for the use of Schools, Academies, Colleges and the general reader. Also, an essay on the Preservation of Health, with fourteen quarto plates, and over eighty engravings on wood, making in all nearly two hundred figures. By J. C. Comstock, and B. N. Comings, M. D. New York, S. S. & W. Wood, 1855.

The above work is well adapted to the use of the general student. It will be found to present clear outlines of a subject that should be an essential branch of every one's education.

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THE MEDICAL EXAMINER.

PHILADELPHIA, MARCH, 1855.

MEDICAL NEWS.

We regret to observe that Drs. D. J. Cain and F. Peyre Porcher have retired from the editorship of the *Charleston Medical Journal and Review.* Their loss will be widely felt by the profession. Dr. C. Happoldt, who has afforded material aid to the Journal for the last eighteen months, and who is otherwise favorably known to its readers, has assumed the management of the Journal. We heartily wish him success in his undertaking.

Dr. George Stevens Jones has resigned his editorial connection with *The Boston Medical and Surgical Journal.* The Editorial duties of the Journal will hereafter be assumed by Drs. Wm. W. Morland and Francis Minot. These gentlemen are well known to the profession and we are confident that the Journal will present even increased attractions in their hands.

Dr. Bennet Dowler, whose charge of *The New Orleans Medical and Surgical Journal* has just expired, proposes to issue a Quarterly Journal in May next, to be entitled The New Orleans Quarterly Journal of Medicine. Each number will contain two hundred and sixteen pages, octavo. We earnestly hope that this project, for which Dr. Dowler's industry and abilities so well fit him, will prove a successful one.

To an obituary notice, extracted from the *London Lancet*, of Dr. Golding Bird, by one of our cotemporaries, the following editorial comments are attached: "To which we may add that Dr. G. Bird was the author of works of a lighter nature, as "Nick of the Woods," and other novels which are well known." Our esteemed cotemporary is no ornithologist, or he would be aware that there are many kinds of Birds. The one he alludes to, the author of "Calavar," &c., was a native of Philadelphia.

In the Record Department of the January number of our respected cotemporary *The Western Journal of Medicine and Surgery*, Dr. Mason's

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paper, entitled "Case of Rupture of the Uterus, &c.," is incorrectly accredited to the operator, Dr. John Neill. The usual credit, also, is not given; both of which oversights we have no doubt will be corrected.

Dr. Moreton Stillé has been elected to the post of Lecturer on the "Theory and Practice of Medicine," in the Philadelphia Association for Medical Instruction, a position ably and satisfactorily occupied for many years by Dr. J. Forsyth Meigs. We congratulate the Association upon the excellent choice they have made.

The following gentlemen have been duly appointed to represent the College of Physicians at the meeting of the American Medical Association: Drs. G. B. Wood, J. Rodman Paul, Isaac Hays, John Neill, F. G. Smith, Bernard Henry, E. Hartshorne, G. W. Norris, Franklin Bache, R. A. Given, Francis West, P. B. Goddard.

The St. Joseph's Hospital, of this city, has elected Dr. Alfred Stillé as its delegate to the American Medical Association.

Dr. Séquard.—The numerous friends of this gentleman will be pleased to see, from the accompanying letter, that he has arrived in this country, and assumed the physiological chair in the Medical College of Virginia. His continued investigations, with regard to the functions of the pneumo-gastric nerves, have afforded results which are now, for the first time presented to the public:

RICHMOND, January 21st, 1855.

DEAR DOCTOR:—Will you have the kindness to give room to the following lines in the next number of your Journal?

I wish to *take date* of the discovery of two important facts relative to the physiology of the pneumo-gastric nerves.

I had already found and published that these nerves are the motor nerves of the vessels of the heart; I have since found that they are also the principal (if not the only) motor nerves of the small vessels of the lungs. This view is founded on the following facts:

1st. The section of the pneumo-gastric nerves, in the cervical region, is followed by the dilatation (or paralysis) of the small vessels of the lungs, as well as it is by the dilatation of the vessels of the heart.

2d. The galvanization of these nerves in the cervical region, after they have been carefully separated from the sympathetic, produces the contraction of the vessels of the lungs, as well as that of the vessels of the heart.

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I will prove elsewhere that the dilatation of both the vessels of the lungs and those of the heart, which follows the section of the pneumogastric nerves, is the first and principal cause of the death, which is the constant result of this operation. Yours, very cordially,

E. Brown Séquard, M. D.,

Dr. McCaw *Prof. Inst. Med. etc. in the Med. Col. of Va.*

Virginia Med. and Surg. Journal.

RECORD OF MEDICAL SCIENCE.

On Fracture of the Skull. By James Syme, Esq., Professor of Clinical Surgery in the University of Edinburgh.

This young man, John W———, aged twenty-three, was at work at a flour-mill in Kirkaldy on the 25th of July last, when a fourteen pound weight fell from the fourth story, and struck him on the head, about an inch and a half from the vertex, where you now observe a depressed cicatrix. On his admission here, I found a depressed fracture of limited extent, and, on removing with bone-pliers the fragments of the outer table, discovered a circular portion of the inner table, of much larger size, which I succeeded in extracting piecemeal through the opening in the outer table. He was conscious at the time, and has ever since been in the full enjoyment of his intellectual faculties. The wound was simply dressed, and went on favorably until its contraction produced inversion of the edges of the scalp, when the hairs growing into the wound prevented further cicatrization, till I pared away the inverted edge a few weeks ago, after which the wound soon healed completely.

In such cases as this there is no reproduction of bone in the central part of the cicatrix, which is intimately adherent to the dura mater; and though it becomes after a time exceedingly dense, yet it is prudent for the patient to wear some sort of protection if liable to be exposed to external violence.

I may take this opportunity, gentlemen, of remarking that injuries of the head have long been a fruitful subject of bad practice and traditional error. In the olden times injury of the head, accompanied with insensibility, was thought to require scalping of the part, so as to allow a thorough examination of the bone, when, if a fissure was discovered, the trephine was applied, under the idea that noxious transudations were liable to pass from without inwards. Even in cases where there was no evidence of cerebral disorder, it was the practice to remove any flap of the scalp that might have been torn up from the cranium. So lately as the time of Charles II., we find it mentioned in the valuable cases recorded by Wiseman, then sergeant-surgeon, that a surgeon who had cut off a large flap of skin in these circumstances was so proud of

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his performance, that he hung up the piece of scalp in his shop, to show what a great operator he was. Even in recent times, whenever injury of the head produced loss of consciousness, it was the practice to bleed largely immediately after the accident.

All these errors have now been disposed of, but something still remains to be cleared away. You have, no doubt, all of you heard of the operation of trephining, and have read that it is required under the following circumstances: first, when purulent fluid exists between the bone and the dura mater; second, when blood has been effused from the main artery of the dura mater; third, when the bone is depressed injuriously: and you will perhaps be somewhat surprised when I tell you that, if you except the case of punctured fracture of very small size, such as a sharp-pointed instrument would produce, trephining is never of any service. Take first the cases of effusion of matter and of blood. Though I have been now nearly thirty-five years connected, in one way or other, with this hospital, I have never known a single case where blood or matter has been withdrawn with a satisfactory result; indeed, I have never seen blood withdrawn at all by trephining, nor did I ever find a surgeon who had met with such a case. You will therefore do well to regard trephining under these circumstances as an operation that does not at all concern you. Also in depressed fracture, if you except the special case of small puncture, you will find trephining never necessary. If the bone is broken, it is so much so that it can be elevated by bone-pliers. Make a crucial incision in the scalp, and raise the flaps; try different parts with the bone-pliers till you can raise a small portion; cut off bits of the overhanging edge, if necessary, and you will be able to complete the elevation of the whole. If the bone has not injured the dura mater, the patients generally recover; if the longitudinal sinus is injured, they die, so far as my experience goes, although there appears no special reason why injury of this venous channel should be so much more serious than that of others, and cases of recovery have been recorded. If the dura mater has been injured so as to expose the brain, the case is very unfavorable; and if the brain itself is injured, it is almost hopeless. I say, *almost* hopeless, for it is not entirely so. A little more than a year ago a fire occurred in the Cowgate, which, as you know, is an old street of lofty houses. The occupiers of the fourth story threw out their valuables into the street, and, amongst the rest, a child four years old. It appeared to have fallen on its head, and had injured one parietal bone, over which a soft tumor existed. One day passed, and next day it appeared that some epileptic seizures had occurred, which, on the following day, became almost continuous, the child being scarcely out of one fit before another came on. I thought it right to open the tumor, and on my doing so, blood issued, and a wide crack appeared in the parietal bone, which had given exit to a quantity of cerebral substance, the appearance altogether being so frightful that I did not complete the incision, but regarding the case as hopeless, sent the child to bed with a piece of wet lint on the wound. However, the convulsive attacks ceased from that time forward; the child showed

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signs of intelligence within two hours; on the third day it was sitting up, with a smile on its countenance; and in a fortnight after the operation it was running about the ward. I learned a short time since that this child was in the most exuberant health. But such cases are unfortunately quite exceptional.

I may remark, as we have happened to speak on this subject, that epileptic attacks sometimes come on months or years after injuries of the head; and you may perhaps be called upon to "do something for the patient," as it is said—that is to say, to trephine the skull. I have myself on several occasions exposed the bone and removed portions in such cases; but, from the results which have followed, I advise you positively against such a course. The case is different, however, if a sinus continue in connexion with a sharp piece of bone pressing on the brain. I once operated on such a case, and some years afterwards had the satisfaction of seeing the patient in perfect health. The case is thus reported in the tenth Report of the Edinburgh Surgical Hospital for 1833, (*Edinburgh Medical and Surgical Journal*, No. 115.)

Wm. K———, aged twenty-two, from Dunfermline, admitted 3rd September. Between six and seven years ago he suffered a very severe wound of the face from the blasting of a rock. He was at first insensible, and considered in a hopeless state, but gradually recovered so as to be able to follow his employment as a weaver. A small opening, however, between the cheek-bone and ear continued to discharge matter, and he occasionally suffered much pain in his head. During the last four months he had had occasional epileptic fits. On examination, it appeared that the malar bone had been fractured, and the whole upper part of the face was occupied by a dense cicatrix. A piece of bone was felt at the bottom of the sinus, bare, and lying obliquely in respect to the surface of the skull. On the supposition that this was a portion of the cranium which had been depressed at the time of the injury, a crucial incision was made through the cicatrix, to expose the aperture of the skull, which was then enlarged by means of cutting-forceps, so as to admit the extraction of the loose piece. It comprehended both tables of the bone, (temporal,) and was about a third the size of a sixpence. The patient expressed much relief after the operation; but the fits still recurred, though seldom, and a profuse discharge issued from the wound. A probe being gently introduced, entered to the depth of two inches perpendicularly, the substance of the brain seeming to have been hollowed out into an abcess. He returned home, and continues in the same state, though, on the whole, improved.—*London Lancet.*

Ulceration of the Legs. Clinical Lecture, delivered at St. Bartholomew's Hospital on Friday, January 12th. By FREDERIC C. SKEY, Esq., F.R.S., Surgeon to the Hospital.

GENTLEMEN,—I propose, in the ensuing lecture, to direct your attention to a group of cases that have recently come under treatment in the wards that have been placed under my charge by the treasurer of the

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hospital. They are those of chronic ulceration of the legs, and, for the most part, occurring in persons of advancing years. There are few persons attending the practice of our London hospitals who are not alive to the frequency of this form of disease. Our out-patients, as well as our dispensary receiving-rooms, teem with them; it may be truly said, their name is legion, whether in town or country. There is no disease so universal as the chronic ulcers of the leg in the lower classes of society, and, for reasons that I shall presently state, to this class are they almost exclusively confined. Eighteen years have elapsed since I published a small pamphlet on the treatment of this most common but troublesome malady. After eighteen years, a wider field of observation is open to me, and I have rejoiced in the opportunity of testing the truth of the views I then promulgated. They have been tried, and I am confirmed in their truth, and the result of that evidence I now proceed to place before you.

[The following cases are drawn up by Mr. Stanwell, Mr. Skey's house-surgeon:]

W. G.———, aged forty-one, admitted under Mr. Skey into Harley ward, on November 9th, 1854. On the left leg, on its inner aspect, was a large indolent ulcer, with very prominent white edges. He had been troubled with this for several years, and been unimproved by treatment. The ulcer was about the size of a crown-piece. He took the common diet, with a pint of porter daily, and soap-and-opium pill, five grains at night. The alteration which even two doses of the pill made in the appearance of the ulcer was as remarkable as it was beneficial. The granulations (before pale, flabby, and extremely unhealthy) were red, small, and covered with a thin layer of healthy pus; the edges, before unhealthy and white, were level with the granulations. The last change was, however, assisted by the application of strapping and bandage. He progressed favorably. The ulcer nearly healed, until November 28th, when, with another patient in the ward, he was seized with phlebitis. The ulcer now rapidly lost ground. Under tonic and stimulating treatment he again got better, and is now in Abernethy ward almost convalescent.

G. C———, aged fifty-nine, was admitted into Harley ward on the 9th of November, 1854. He had suffered for many years from numerous small ulcers on the left leg and foot, for which, as a means of cure, and as a last resource, amputation was deemed advisable. The ulcers, on admission, presented a most unhealthy aspect; deeply excavated; white, overhanging margins; pale, flabby granulations, from which a thin, sanious discharge issued. On admission, he was ordered the common diet of the hospital, and a pint of porter daily. Ordered, confection of bark, two drachms, three times a day. Acetate of morphia two grains; simple cerate, a drachm,—as an external application to the ulcers. This treatment he continued till the 16th of November, when he took soap-and opium pill, five grains at night. This he continued till the 27th of November, when he began to take the pills three times a day, the effect on the ulcers being manifestly very good. He is now ly-

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ng in Abernethy ward, gradually getting better, under the same treatment.

J. P———, a healthy-looking countryman, was admitted into Harley ward, on the 11th of November, 1854, suffering from a chronic ulcer of the left leg, which had for some years resisted all attempts to cure it. The man suffered a good deal from cold extremities. The ulcer presented the ordinary characters of the indolent class. Good diet, rest, and the internal administration of opium night and morning, in the form of soap-and-opium pill, rapidly converted the unhealthy granulations into red-pointed and cleanly secreting ones. After a short time, (on Nov. 30th,) he took half a grain of extract of opium night and morning, as the combination with soap seemed to relax the bowels. An attack of phlebitis, from which, under the treatment mentioned in the ward-paper, (Dec. 1st,) he recovered, checked the process of cure (which was rapidly going on) for some days. On its cessation, the ulcer again assumed a healthy character, and he was discharged on the 4th of January.

Emily S———, aged four years, was admitted into Treasurer ward on the 10th of November, 1855. About an hour before, a mail-cart had passed over her right foot and ankle, causing a severe and extensively lacerated wound of the dorsum and sole of the foot. In the former situation, the extensor brevis digitorum muscle, and the tendons of the extensors of the toes, were exposed. The integument and fatty tissue on the sole were much lacerated. The edges of the wound were brought into as accurate apposition as possible, and wet lint covered over the whole injured surface. The child progressed favorably, in every respect, until Nov. 16th, when erysipelas (at the time very prevalent) made its appearance, extending to the knee. The leg was wrapped in cotton wool, and a bread and water poultice applied to the foot. At the same time, she was ordered one grain of disulphate of quinine every two hours, and six ounces of wine daily. The inflammation gradually subsided, the quinine having been previously increased to two grains, and afterwards changed for tincture of cinchona, forty minims; aromatic spirit of ammonia, twenty minims, every four hours. The granulations on the surface of the wound, on Dec. 4th, appearing indolent and unhealthy, Mr. Skey ordered one grain of soap-and-opium pill every night. This has been continued since; strapping has also been employed; and the child remains now in the hospital, a happy example of the beneficial effects of opium on unhealthy granulating surfaces.

Mr. P.———, a London merchant, aged sixty-six, tall and stout, had a chronic ulcer on his leg, nearly as large as the crown of a moderate-sized hat. It had been his companion for seventeen years. He applied to two eminent surgeons, who said that they neither could nor dared to heal it. The supposed evil attending the arrest of a long-standing wound in the system you must take for what it is worth; my faith is somewhat equivocal. I told him I could cure it, and I dared to cure it. It discharged immense quantities of fœted ichor, and had done so for years. Mr. P——— was almost excluded from the drawing-room of

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his friends. I gave him half a grain of extract of opium night and morning, and I strapped his ulcer daily. In three days he expressed astonishment at the altered aspect of his deeply excavated ulcer. In a week, I increased the dose to one grain. In forty-two days, this immense wound had healed to the size of a small watch. His health improved under the treatment. During the above period, he had taken no form of medicine but that I have mentioned.

Such is the treatment I have adopted in these cases of ulcer of the lower limbs; and you will naturally inquire into its principles and objects, for it is not sufficient that you learn the efficacy of a given remedy in any given disease. You are bound as students to inquire into the rationale, or the principle, of a remedy, that you may hereafter yourselves extend its application, and generalize on its influence, were it for no other purpose than that of comparing, classing, or distinguishing diseases; for it may not unreasonably be inferred that two or more apparently dissimilar diseases, which are amenable to the same remedy, must have at least some characters in common.

I venture to attribute to this remarkable drug the property of promoting the formation of healthy granulations on a surface that, notwithstanding all the previous appliances of surgery, is yet flat, pale, and ungranulating. Now, there is no example of the power of opium to effect this object, more conclusive, or in which there is more work to be done, than that form of disease of which I am speaking,—which consists of a gap formed on the surface of the body, of greater or less depth and diameter, and in which there exists not even a trace of a curative action,—and yet the object is accomplished by means of this agent, and often with remarkable celerity. We call opium a stimulant and sedative. As a stimulant, it is not very often employed in practice; while its properties, as a sedative, are well known, and are in daily requisition. Its property of mitigating pain and of promoting sleep, is that for which it is almost exclusively employed, and so completely is its action associated with this sedative principle, that its occasional influence as a stimulant is almost entirely lost sight of, and the stimulating property has merged in the supposed sedative. How otherwise can we explain the reasoning of Mr. Pott, who may almost be termed the father of modern British surgery. In speaking of the subject of opium in the treatment of gangrena senilis, he refers its undoubted efficacy to its property of soothing pain. He says, "I have always found that whatever tended to calm, to relax, and to appease, at least retarded mischief, *if it did no more.*"

But, in truth, pain, though common, is by no means an invariable concomitant of senile gragrene; and it is tolerably notorious that opium is a valuable remedy in all cases of this disease. How then, on what principle, does opium act in those numerous cases of senile gangrene that are destitute of pain, and in which it is an equally efficacious remedy?

I believe that its sedative properties have little concern with the result. In truth, opium is a most valuable stimulant of the vital powers, and whether its action originate with the centre or the periphery of the

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circulation, whether primarily on the heart or on the capillary vessels, I do not pretend to know; but there is no drug, simple or composite, known to our pharmacologists that possesses an equal power with opium, of giving energy to the capillary system of arteries, of promoting animal warmth, and thus maintaining an equable balance of the circulation throughout the body. To maintain the balance of the circulation! How much of meaning is attached to these words! How many affections of the bodily frame may not be brought within the range of this definition! Take the common chilblain; what is it but a local congestion of blood caused by defective capillary power?—there is no better remedy than opium; cold feet, as characterizing a person or a constitution, equally relieved; senile gangrene, the result of arrest of the capillary circulation, or its apparent opposite, local hyperæmia—these diseases, one and all, manifest a loss of local power, a failure in the balance of the circulation. The term "inflammation," a word formerly in the mouths of our professional brethren on all occasions, is now limited in its application, and should be yet more limited, and I believe, in a yet more advanced state of medical science, will be restricted to an actually rare condition of the system. The influence of opium in such conditions is that of promoting a genial warmth over the system, a glow exactly resembling, and in fact identical with, that produced by the reaction on the system which is caused by the cold-bath. *It is local health*, and the sensation is most agreeable. The benefit derived from opium, when administered for the purpose of arresting inflammatory action of the vessels, admits, I think, of much doubt, and should be resorted to with some hesitation as a remedial agent, though I am quite persuaded that the evil of its administration is greatly overrated. But who will profess ignorance in these days of the inestimable value of this agent when resorted to immediately after an attack of inflammation has been subdued by a local or general bleeding? Here we can imagine that, the activity of the disease being checked, the diffusing influence of opium on the circulation may act as a simple derivative, operating on the vessels at the moment they are not indisposed to yield up their blood, and to which indeed they are compelled by the diffusive power of the general stimulus.

Many years ago, and before the introduction of railway travelling, I was summoned late one afternoon to see a patient some eighty miles from London. I travelled outside the mail. This occurred in the month of December, and the night was extremely cold. By some mistake I omitted to bring my great-coat; and, for the first hour, I suffered a good deal. On reaching a town at some ten miles distance from London, I took the opportunity, while changing horses, to run across the street to a druggist's shop, where I ordered a draught, containing twenty-five drops of tincture of opium. I believe I was the only person outside the coach that night who did not suffer the slightest sensation from cold. But it will be urged by many, who have experimented on and who have observed less than I have done, the medical properties of opium, the infinite importance of studying the reactive effects of this deadly poison,

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and they would inquire into the condition of a person so treated on the following day. You may be assured that it amounts to *nil*. You will, I am sure, readily understand what I mean when I say the cold and the opium mutually balanced and mutually neutralized each other. There could be no reaction, because the influence of the depressing agent—viz., the cold, rather than otherwise, exceeded in duration that of the stimulant. If the period of prostration were brief, and limited to one or two hours, the argument might hold; but it is but a sorry objection to be urged after all.

I wish I could impress on the minds of the medical authorities in the Crimea the real benefit that might be derived to our noble troops, beaten down by intense cold and suffering in its various forms, from the judicious administration of opium. If twenty-five or thirty drops of tincture of opium, in addition to his ordinary quantum of rum, were administered to each soldier whose nightly services are required in the trenches or on guard, you would hear little complaint of cold for that night, neither would it produce the smallest tendency to sleep. And what do you imagine would be the objection urged against the proposition? "You would destroy the efficiency of the entire army; you would corrupt their morals; you would engender the most enervating habits; they would all degenerate into professed opium-eaters; and in fact," say the alarmists, "the idea is preposterous." Here again I assert that no possible evil could result; the only sensation, present and future, would be the absence of cold. If cold beget suffering, opium is the antidote of that suffering, and the one will assuredly neutralize the other.

Notwithstanding the prejudices and the bigotry that have long beset the public mind on this subject, and from which our profession is not totally exempt, there is no comparison to be drawn between the practice of dram-drinking and the excessive indulgence in the use of opium. The man who indulges in spirituous liquors makes daily inroads on his digestive powers not less than on his brain. His appetite is destroyed, and the pabulum for his blood is withheld from his circulation. He is stamped for life, and his perfect health is irrecoverable. The influence of opium, when taken as a means of indulgence though deleterious, is not permanently injurious. It exercises no serious influence on his digestion or on his cerebral organs, and, the practice once controlled, leaves him in a condition to regain, without difficulty, the fullest vigor of both bodily and mental health.

I have related to you the particulars of several cases of chronic ulcer in which recovery was attributable to the medical properties of opium, and almost to opium alone. The character of these ulcers strongly marks the inactivity of their nature, and hence the class of society to which they belong. They are marked by a flat base, which indicates, by its pale, flabby uniformity of surface, that no reparatory action has approached it. It is often surrounded by a thick, high ridge of lymph, covered by unhealthy integuments. The depth of the ulcer, which may be seven or eight lines, is caused partly by the ridge, and partly by the excavation of the ulcer below the natural level of the healthy integuments. So long as this ridge exists, although granulations may form,

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and will form, from the date of the employment of the opium, yet cicatrization will never complete the process of cure unless the wound or ridge be absorbed. Now the action of opium is not alone exhibited in the development of healthy granulations, but in the entire complement of such actions as are required by the sore—viz., the formation of new material, and the absorption of the old.

The influence of the stimulant is exhibited, therefore, not on one particular function. It does not merely promote secretion, but it stimulates to healthy vital actions in their entirety—viz., secretion, organization, and absorption contemporaneously; the granulations are secreted and organized, while the circumvallation of unsound material, the product of years of growth, is gradually absorbed and reduced to the level of the surrounding integument; for the removal of this wall is quite as indispensable to the ultimate result as the obliteration of the cavity by granulation. Without the two surfaces be brought to the same level, the process of cicatrization, or skinning over, will never be perfected.

If, therefore, we find that a disease like that I have described, and which exhibits so palpably a dormant condition of the remote capillaries, is amenable to this form of stimulant, which can only accomplish the cure by the substitution of healthy for morbid actions, why should we restrict its employment to this class of diseases? Why, as I have elsewhere inquired, may we not experiment with success on any local disease dependent on the same cause—viz., an inert condition of the remote vascular system?

In claiming for opium the merit of rousing into healthy action the dormant capillary system, to the end of accomplishing the permanent cure of the chronic ulcer of the legs in old persons, I by no means wish you to infer that I consider all other modes of treatment unworthy of trial. Indeed, I attach great value to that recommended by Mr. Baynton, of Bristol, and others; but, having tested their value, I have no hesitation in pronouncing that which I have reccommended, so far as I am competent to judge, as by far the most certain and efficacious.—*London Lancet.*

Case of Tracheotomy. By J. M. MURDOCK, M. D., House Surgeon to Bellevue Hospital.

The Editors of the New York Medical Times.

GENTLEMEN,—The following case is one in which I have taken much interest; and as it presents a new cause of suffocation, viz., *inspissated mucus in the trachea*, it may not be uninteresting to your readers.

Eliza Campbell, child, aged fourteen months, was admitted into this Hospital on Sunday, Dec. 10th, at 4 o'clock, P.M. The statement of the grandmother, who accompanied the child, was, that she had always been healthy, except the occurrence of a slight convulsion, three months previous, while teething. Since that time she has enjoyed good health, and on the day of the present attack was unusually bright and active; that about an hour previous to her admission, while playing with a piece of meat given her to suck, she was seized with a fit of coughing, and be-

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came blue in the face. The child was then taken to a drug-store, and an emetic administered, which produced copious vomiting, but no relief to the dyspnœa. She was then brought to Bellevue Hospital.

When admitted, which was about an hour after the accident, she presented the appearance of being asphyxiated. The lips and face were of a venous hue; respiration was labored and hurried, and the crowing sound of croup was heard, during both inspiration and expiration. Dr. Sands, one of the house physicians, being the first who saw the patient, immediately introduced his finger into the pharynx without detecting any foreign body. He then passed a probang through the œsophagus, with the same result. The patient was failing so fast, that it was the opinion of all the members of the house-staff present, that unless respiration was re-established by an operation, death would soon be the result.

Accordingly, with the assistance of these gentlemen, I performed the operation of tracheotomy, the patient scarcely losing a teaspoonful of blood, and made search for the foreign body, but without success. She was so much relieved by the operation that it was thought proper to discontinue the search until rest was obtained. A silver canula was then introduced into the opening, through which the patient easily respired. She then sank into a quiet slumber, which continued, with slight intermissions, until 12 o'clock, a period of eight hours. At that time, respiration became more labored and hurried, probably from the fact that the foreign body had fallen from the larynx into the trachea, and had stopped at a point below the artificial opening. At 1 o'clock P.M., Drs. J. R. Wood and Sayre, visiting surgeons to the Hospital, saw the patient, and concluded to make further search for the foreign body. Accordingly, Dr. Sayre, by means of a silver probe, after a little search, succeeded in extracting from below the opening a small, hard substance, which, on further examination, was found to be inspissated mucus. After the removal of this foreign body, respiration again became easy, and hopes of permanent recovery were entertained; but in a few hours it became evident that the patient was sinking. The skin was hot; the pulse small, and 190 per minute, the respiration more labored than it had previously been, and 94 per minute. She died at 6 o'clock the next morning, thirty-eight hours after the accident.

On *postmortem* examination, both lungs, with the exception of the middle lobe of the right, presented the appearance of pneumonia in the second stage. This was probably caused by the congestion dependent on imperfect aeration of the blood. No foreign body was found in the larynx, trachea, or bronchi. I think that these appearances justify us in saying, that had the child been brought to the Hospital half an hour earlier, the operation might have preserved life.

Bellevue Hospital, Dec. 21, 1854.

MEDICINE IN HOLLAND.

Removal of an intestinal stricture. By DR. VAN DOMMELEN.—P., aged 29, of a choleric temperament, a soldier, in the 6th Regiment of Infantry, and formerly in the East India army, was attacked at the end

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of 1849, at Soerabaya, with dysentery, for which he was for three months under treatment in the Hospital of that place, and from which he recovered, but has since had extreme difficulty in passing fæces. In 1851, he was, according to his statement, set home on account of the constant recurrence of palpitations of the heart, which the Physicians attributed to the heat being more than he could endure. He remained at home as a citizen for a year, when he got himself received into the Militia; but from the time he joined he was repeatedly admitted into Hospital, complaining of colicky pains. The peculiar appearance of the fæces immediately struck us; they were, in fact, not thicker than the stem of a pipe, and long, like a small cord in the bed-pan. This was readily explained, on local examination; the finger introduced into the rectum encountered, at a distance of eight centimetress, (3·1496 English inches,) from the anus, a ring-shaped septum, which did not admit the passage of even the point of the pipe of an enema syringe. This septum was tolerably tense, and was as hard as cartilage, especially round the opening.

After having in vain endeavored, by means of evacuants, laxatives, and enemata, to regulate the alvine discharges, I proposed operation, to which the patient at once consented. Everything which could be necessary during its performance having been prepared, and the rectum having been previously cleared out, he was placed as for lithotomy, and was steadily held in this position by assistants. I now introduced the index-finger of the right hand, smeared with cerate, into the rectum, and so far through the stricture that the opening rested exactly on the top of the finger. I afterwards, with my left hand, passed a long, slender, blunt-pointed bistoury, the end of which was protected by having lint rolled round it, along the index finger, to the stricture; I then drew the finger a little backwards behind the knob of the bistoury, by which means the latter came exactly opposite the narrow opening, and so passed into it. I now turned the back of the bistoury towards my finger, and with the latter pressed upwards, successively to both sides, and downwards. Immediately these incisions were made, the constriction ceased, and the finger, with the bistoury, with great ease, glided further up.

As there was no hæmorrhage of any consequence, no plugs were introduced, and the patient was merely recommended to keep perfectly quiet.

In the afternoon (seven hours after the operation) the patient passed some coagula of blood, mixed with serum, but without fæces. He also occasionally perceived a spasm in the sphincters, but was in other respects well. Early next morning he had a fæcal evacuation, differing in no respect either in form or quantity from what would be passed by the most healthy man. He continued under my observation during a period of three weeks, and I had each day an opportunity of observing the beneficial effects of the operation. I met him three months afterwards, when he stated that he had had no return of his infirmity.

From the distance of this stricture from the anus, we thought that a decisive result was to be expected only from such an operation as that above described. The introduction of plugs of lint, of little bags to be

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afterwards filled up with lint, or of bladders distended with air or fluid, would in this case have been inefficacious; the shortness of the canulas of Bermond de Bordeaux, which consist of cylinder over cylinder, and are only six centimetres (a little more than two and a-third English inches) in length, would prevent their being available; while, even if this were not the case, it would have been difficult, on account of the great exertion used in defecation, to retain the external cylinder in its position during the removal of the most internal necessary to admit of the discharge of that function; and, lastly, Costallat's instrument (a closed piece of intestine, introduced on a probe, and subsequently filled with lint) could scarcely have been introduced with the probe alone.

Dr. Van Munnikrede has described a case of medullary carcinoma of the femur—amputation—recurrence of the disease in the lungs—death.

The patient was a farmer, aged 41. The carcinoma had been slowly developed, and was probably the result of an external injury, received many years before on the outer side of the knee. When amputation was first proposed, the tumour was painless, and had not yet become softened, and the general health was undisturbed. The patient refused to submit to the operation, nor did he consent to it until six months later, when the swelling having become larger and painful, presented here and there fluctuating points; the leg and foot were œdematous and hot; the general condition was impaired; hectic fever, perspiration, and general emaciation were present; the patient had a cachectic aspect. Three months after the performance of the operation, which took place under chloroform, he was released from treatment, in an improved state of health, the principal functions being duly performed. On examining the amputated limb, it was seen that the tumour was formed by an extraordinary enlargement of the lowest portion of the femur, and that it belonged to Nelaton's third variety of osseous cancer, the so-called "spina ventosa." About six months after the operation, the patient returned with an affection of the lungs, which was diagnosed to be carcinoma, and under which he sank in four months from the time of his return. On opening the thorax, the lungs were found to be throughout the greater part studded with cancerous nodules, some of which were hard, while others had passed into the stage of softening. Permission was not obtained to examine the other cavities of the body.

Dr. Muntendam gives a short statement of the clinical results obtained by him as to the use of quina in phthisis pulmonalis. The number of cases briefly reported by him amounts to 22; by the denomination "phthisical," he understands those who labor under pulmonary tubercles, who, at the same time, are feverish, and whose febrile condition is dependent on the morbid process in the lungs. He thinks that, from his observations, he may infer: 1st. That quina administered with, and often without, acetate of morphia, is capable, in very many cases, of prolonging the lives of phthisical patients, and that it not unfrequently even saves them, if fresh depositions of tubercle do not again excite the morbid condition. 2nd. It is capable of prolonging life where the local process is not too extensive; when administered in the commencement

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of the disease it may, especially in children, married and puerperal women, if circumstances are in other respects favorable, save life. 3rd. The frequency of the pulse does not diminish under the use of quina until later, after the assimilation is restored; or it may also do so in a person laboring under pulmonary tubercle, who has been attacked with intermittent fever. 4th. The transient hyperæmias or determinations to the head, chest, or intestinal canal in these patients, do not contraindicate the use of this remedy. The fever for the most part disappears after some time, but is easily re-excited; or the febrile attacks may be obstinate, and may require the administration of quina to be continued for some weeks. In acute, and in many chronic cases, the cough and expectoration are at first increased; an indirect effect of the quina is also the recurrence of the menses; the effusion in the lungs remaining, as œdema, or hydrops-fibrinosus, after the congestions have disappeared, is then expectorated under the form of a gelatinous, more or less frothy mucous mass, or as serum, together with, in chronic cases, globose, nummular sputa. 5th. Dietl justly observes, that the effect of quina on the organs of the circulation is unexplained. 6th. Sulphate of quina administered continuously, and in small doeses, excites neither dyspnœa, nor diarrhœa, nor any other injurious symptom. 7th. Sulphate of quina deserves to occupy a principal place in the treatment of many, not to say of all cases of phthisis pulmonalis. 8th. Exclusion or antagonism between tuberculosis of the lungs and intermittent fever, does not exist, unless, perhaps, when by the latter term we understand "feverish dyscrasia."

Dr. Globee concludes his easay, "Something Further on Uræmia," in which he gives a sketch of the history of the group of phenomena comprehend under the term, with the communication of a case in which the functional symptoms of that condition and Bright's disease played a principal part. The patient, a man of 26 years of age, came under treatment with effusion in the left pleura, which had already lasted some weeks. He continued in the same state for above three months, after which time the case assumed all the appearance of uræmia. Although all the distinctive characters of the affection co-existed in all a well-marked degree, the presence of carbonate of ammonia could not be demonstrated either in the expired air, the blood, or any of the secretions. The patient sank in a fortnight from the time the first uræmic phenomena had appeared. On *post-mortem* examination, circumscribed arachnitis was observed on the upper surface of the brain; there was very great cerebro-spinal effusion; however, the author is of opinion, that uræmia must be looked on as the principal cause of death, when the condition of the kidneys, which were both found in the second stage of Bright's disease, is taken into account.—*London Medical Times and Gazette.*

On Pure Oxide of Carbon, considered as a Poison. By M. ADRIEN CHENOL.—The facts we are about to communicate relative to the poisonous action of pure oxide of carbon, lead to the following theory:—

As carbonic acid only plays the part of an *obturator*, and as, being a

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gas undecomposable at a low temperature, it is incapable of furnishing the oxygen necessary for the combustions which sustain life; it causes death by pure and simple asphyxia; it is quite otherwise with pure oxide of carbon.

This oxide of carbon, indeed, in contact with the marvellous organs of combustion with which we are endowed, speedily gives rise to the following effects:—It passes to the state of carbonic acid, whence result:—1. Substraction of oxygen and its consequences; 2. combustion of this oxygen and its consequences; 3. formation of carbonic acid and its consequences.

These three effects are inseparable, and the last occasions immediate asphyxia by arresting the action of the lungs and every act of motion. But at the same time, the oxygen has been condensed: whence has resulted an action of compression and of tearing by the vacuum produced; but, moreover, the conversion of oxide of carbon into carbonic acid has given rise to a disengagement of about 6000 calores per litre of oxygen, burned in the spongiosities of our organisation containing this oxygen, which should have served for enriching the blood.

These 6000 calores, developed in intimate contact and cellules of atoms or small spheres of oxygen, occasion, then, virtually and infallibly, a disorganisation by cauterisation, which causes that violent pain accompanying poisoning with *oxide of carbon*, which differs in this respect from that produced by *carbonic acid*, which, as we have frequently experienced in the mines of Pont-Gebaud, causes an agreeable intoxication, passing by degrees to a sweet lethargy, rather than a painful sensation. Consequently, the study of oxide of carbon as a poison is a subject of much complexity, and of the highest interest in a toxicological point of view.

Facts in support of this Theory.—Contrary to what has been written, the oxide of iron of ordinary combustion is an insufficient reducer, and incapable of removing oxygen from metals of the class of iron. Thus, the theories based on this action are erroneous. This is not the occasion for a discussion of this order. We may here say that this oxide of carbon presents dangers as a poison.

But if the oxide of carbon of combustion, that is to say, that which contains 4, 5, and even 6 volumes of nitrogen, is not a powerful reducer, pure oxide of carbon is not only a reducer of the greatest energy, but a violent poison, even in very feeble doses.

My health has suffered seriously, in consequence of several poisonings by this gas, of which I have made very frequent use, on account of its energetic and peculiar properties as a reducer. I wish, therefore, to obviate, for those who shall follow up my works, the dangers attached to their practice, by pointing out to them this danger in an especial manner.

In 1846, I was at the Marquis of Sassenay's manufactory, at Stolburg, in Prussia, for the purpose of studying the ores of zinc, and their treatment in various points of view, particularly as regards improving the quality of very poor ores, by a system which I had invented, and which consisted in fusing these poor ores in a *cubilat*, closed at the

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upper part, and collecting the zinc at different heights in various states of oxidation. In the course of my experiments, I desired to make some investigations concerning the oxide of carbon resulting from the reaction of the oxides mixed with an excess of charcoal. With this view, having no instrument suitable for collecting this gas, I drew it by means of a pipette from the apparatus, and conveyed it under a bell-glass. While I was occupied with this operation, the engineer of the establishment spoke to me, and struck me on the shoulder, without attracting my attention; I then, as it appears, inhaled some of the gas contained in my mouth, and immediately fell on my back, as if stunned.

The following were the external and internal effects of this sudden annihilation of all external faculties described, according to a *procès-verbal*, drawn up by the director, the engineer, and myself, after I had somewhat recovered; and this extract is perfectly in accordance with another accident, of which I will speak presently, and which occurred to me two months ago.

Externally:—1, I fell as if struck by lightning; 2, the eyes were turned back in their orbits; 3, the limbs were contracted; 4, the skin was discolored; 5, the veins were swelled, and presented a black tint under the skin. *Internally*:—1, The sensibility was extreme; life was, so to speak, exalted; all the ideas and principal matters of interest, and all the predominant affections were reproduced to the mind, as in an instantaneous mirror. 2. Violent pains, as if of tearing, were experienced in the thorax. This inward pain was most vivid; the brain felt powerfully compressed, either as a principal action, or as a nervous action, induced by the pain.

Being in this position, I was carried into the air without knowing it, nor did I feel the lotions of water and of vinegar, or the inhalations of ammonia, &c. After a quarter of an hour, external sensation slowly and progressively returned, accompanied by the internal pains already mentioned; but then changing into a sensation of suffocation, attended with cold, and with drops of perspiration all over the body, but especially on the head.

For several days the lassitude was general and continuous, and digestion very bad. Moreover, there was a general disgust for everything. Sleep, from being light, became obstinate and heavy; it was frequently disturbed by cramps in the knees and toes.

For several months after, these effects, although they diminished very much, maintained a marked influence on my health. I was inclined to sadness, faintness, and disgust:—I was alarmed at the noise of any unexpected shock; it produced a nervous shock analogous to an electrical discharge. This state gradually became modified, passing to that of a kind of insensibility which was fixed more particularly at the ends of my fingers, in degrees of intensity varying with the state of the atmosphere. To sum up, it is evident that poisoning with pure oxide of carbon is most terrible in itself, and involves a series of disorganisation.

I am now under the influence of the second poisoning to which I have alluded, and which happened through the sudden breaking of a mano-

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meter tube, against which I knocked my head in a narrow place. All the internal symptoms were exactly the same, but I was not knocked down. I remained in a state of half consciousness and capable of taking care of myself, according to what I hoped to do, either for others or for myself.

Feeling convinced that the internal derangement resulted from a lesion produced either by the effect which I have just mentioned as regards the theory of the poisonous action of oxide of carbon, I drank for several days, and in as large quantity as I could, gum water and mallowa water. I expected to attain my object as soon as possible. Nevertheless, the disgust, feebleness, and insurmountable inertness continually prevailed; the insensibility of the ends of the fingers became extreme; and, by a singular contrariety, not only did shocks cause me to tremble electrically, but a drop of water which fell on my skin, or the slightest touch, even my own, produced a sense of irritation. Bathing seemed to do me much good; for several hours after, the *calm* was much ameliorated; but sometimes in the baths, I experienced a kind of general shuddering.

I have addressed these details to the Academy for the sake of general utility, and in order that the medical profession may study the dangers of so terrible a poison, and the curative means to be employed.—*London Chemist, from Comptes Rendus.* No. 16.

On Preserved Meat-Juice.—By ROBERT CHRISITSON, M. D., Prof. of Materia Medica in the University of Edinburgh.—About 18 months ago, when consulted in the case of a relative of Mr. Gillon, the extensive and skilful manufacturer of preserved meats at Leith, I found that the patient was entirely supported in a severe illness, by the Preserved Juice of Meat, which had been given at Mr Gillon's suggestion. Observing the readiness with which it was taken when other food of every kind was refused, I was induced to try it in other instances, and eventually to employ it in various states of disease. The results led me to suggest the use of it to many professional friends, and to advise the druggists of Edinburgh to keep it, so that it is now much in request, and may be easily obtained.

This substance is the pure juice of beef, preserved in the way in which meats and vegetables are now so extensively preserved in the fresh state, for store provisions. The mode of preparation is as follows: Cylindrical cases of tinned iron are filled each with six pounds and a half of beef; and the lid is soldered on, but with a hole about half an inch in diameter in the middle of it. Two trays of such cases are shoved into iron retorts, analogous in form to retorts for gas-making, but double-cased, so that steam may be introduced into the interstice around. They are thus subjected to a heat of 220° under steam pressure, for about three hours; by which the beef is partially cooked, and, being thus also made to contract strongly on itself, squeezes out a portion of its juice, amounting to a few ounces from each tin. The tins are then drawn, the juice is poured out, and the meat, with certain additions, is

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subjected to the preservative process. The juice, after being cooled and entirely freed from fat, is put into small four-ounce tin cases. Each of these has a small aperture at one end, which is secured by solder, after the juice is poured in. The tins are then subjected, on trays, to a temperature of 220° in a muriate of lime bath. On being removed, the solderer rapidly touches with his iron the solder on top, which giving way allows steam to rush out forcibly, and carry with it the air in the upper part of the interior. By the time he has thus swiftly passed over sixteen or twenty tins, the first is ready for being re-soldered by a similar dexterous application of his iron, which then in succession as quickly secures the whole open and steaming apertures. The process of heating in the bath, tapping and resoldering, is then repeated a second time, to make sure of the thorough expulsion of every particle of air. The tins finally are painted to preserve them against rust.

The process is most perfect. I have repeatedly opened tins eighteen months in my possession, and stated to have been many months in store when I got them, and in every instance the contents had the rich delicate aroma and taste of fresh beef-juice. Sometimes the taste is slightly resinous or soapy, in consequence of a little resin having obtained admission in the operation of soldering. But as this does not occur often, the impurity may be avoided with due care. The juice may be taken with relish in small quantity, either cold or warm, in its concentrated shape; but it is rather strong to be used without dilution. When diluted with three times its volume of boiling water, and duly seasoned with salt and pepper, it makes a more palatable beef-tea than any which can be made in the usual way. Sometimes, indeed, a patient will be found to prefer the ordinary sort, either because the preserved juice has unluckily been resinous, or on the same principle that leads some people from the plains of England to prefer hard water to the pure mountain springs of the primitive districts of Scotland, viz., because they are not accustomed to the finer sort. But this is not the general fact; and there can be no doubt that the preserved meat-juice makes a most palatable beef-tea, and an equally eligible basis for many soups.

Until about ten years ago, in concurrence with general opinion, I used to regard beef tea as a highly nutritive article, not to be rashly or freely given during disease. My sentiments in this respect were shaken, when I ascertained, in the course of some experiments for adjusting the dietaries of the General Prison and the Royal Infirmary, that a pint of the very finest beef tea contained scarcely a quater of an ounce of anything but water. Since that time I have much more readily listened to the cravings of patients for beef-tea in even many acute diseases, and above all in protracted sub-acute diseases, and in chronic diseases with fever; and I have thought I saw that it maintains the strength almost like wine, lessons emaciation and weakness in tedious diseases, and does not occasion any increase of reaction. There is no disease in which these properties are more remarkably shown than in protracted cases of gastric fever, of which by the way, I have seen an unusual number, both in town and country, during the last three years. These cases have often lasted for six weeks, or,—with a relapse, from too early indulgence or exposure,—for the long term of three months nearly: dur-

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ing which little, or absolutely nothing else, was taken, except beef-tea or diluted meat-juice; and without the attenuation and debility which so protracted a fever and want of appetite ought to have induced. In some instances I could scarcely doubt that life was preserved by this nutriment. It is unnecessary to particularise the various states of diseases in which the same practice has been followed. It is peculiarly applicable to all subacute protracted diseases, whether febrile or otherwise; and in all such there is even no great reason to hesitate in resorting to it when local inflammation is present. Every one, I think, will be struck with the readiness with which such patients will often take diluted meat-juice or beef-tea repeatedly, when they refuse all other kinds of food. It should be given in the quantity of a teacupful at a time, every four or six hours; but it is well to alternate it with other simple nourishment, when the patient will consent to do so.

What is its mode of action? Not simply nutrient. A quarter of an ounce of the most nutritive material cannot nearly replace the daily wear and tear of the tissues in any circumstances. Possibly it belongs to a new denomination of remedies, whose action never was even suspected to exist until recently—those which, by some peculiar influence, diminish the waste of the tissues under the exercise of their functions. Professor Lehmann has proved (*Annalen der Chemie*, 1853) that coffee possesses this singular property in so remarkable a degree, that in persons following an active occupation an infusion of an ounce of roasted coffee daily will reduce the daily waste by a fourth part; and the same property seems likewise to belong to tea, and other restorative beverages. It is not improbable that the sapid and saline principles of meat, united in what is called ozmazome, and constituting the ingredients of beef-tea and meat-juice, possess some such property. It is difficult otherwise to account for the interesting results obtained by the late Dr. Edwards, in 1833, who, in his researches on nutrition,—strangely overlooked by the celebrated Gelatin Commission of the French Institute, in their condemnatory report on gelatin in 1841,—found that dogs die slowly if fed on bread and gelatin alone, but, when thus greatly reduced, quickly regain flesh and strength by the addition of two ounces of meat-tea, which cannot appreciably increase their textures by its own insignificant amount of solids. Either it acts as a digestive ferment, so to speak,—promoting the assimilation of other nutriment—or, like coffee, it must lessen the waste of the tissues in the exercise of their functions.

Mr. Gillon's meat-juice contains only 6¼ per cent. of solids. As a mere nutrient, therefore, it is much in the same category with beef-tea. Sixteen ounces of beef-tea, made with the contents of one tin, yield only 114 grains of solid extract. It contains no fibrin, no albumen, no gelatin. It does not even gelatinise, on exposure to the air for days: it is ozmazome, with the salts and sapid and odorous principles of meat, and materially different from all boiled extracts.

I should add that no good beef-tea could be made so cheap as with this preserved meat-juice. A tin of four ounces makes sixteen of strong beef-tea. This much requires, in the ordinary way, a pound of the finest beef, which at present costs ninepence, and is scarcely ever so

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cheap as sixpence. The reason for the cheapness of Mr. Gillon's meat-juice is, that the residual meat is economised, while that of the ordinary cooking process is good for nothing.

It is a much more convenient article for use than any of the extracts made from meat by extemporary processes in the kitchen, or by certain very dubious chemical methods lately come into vogue. It differs materially from all meat extracts prepared by boiling.—*London Monthly Journal of Medicine.*

Abstract of Meteorological Observations for January, 1855, *made at Philadelphia, Pa. Latitude* 39° 57′ 28″ *N., Longitude* 75° 10′ 40″ *W. from Greenwich.* By Prof. James A. Kirkpatrick.

1855. Jan.	Barometer. Daily Mean	Barometer. Mean Daily Range.	Thermom. Daily Mean.	Thermom. Mean Daily Range.	Dew Point 2 P. M.	Rel. Humid. 2 P. M.	Rain and melted Snow.	Prevailing Winds.	Remarks.
	Inches.	Inches.	Deg.	Deg.	Deg.	Hunds.	Inch.	Points.	
1	30.297	.234	31.3	2.0	29.2	.74		NE.	Clear.
2	30.484	.187	33.3	2.0	30.3	.80		NE.	Cloudy.
3	30.480	.052	38.3	5.0	35.3	.82		NE.	Cloudy.
4	30.335	.145	44.3	6.0	43.8	.85	0.054	NE.	Cloudy; ev. fog; *Rain* during night.
5	30.421	.086	40.7	5.0	33.7	.67		N.	M. and ev. cloudy; aft. clear.
6	30.489	.077	41.5	3.2	37.8	.96	0.092	NE.	Rain all day. [*highest* 62°.
7	30.317	.171	52.3	10.8	52.7	.77	0.106	(Var.)	M. fog; aft. cloudy; ev. rain. *Therm.*
8	30.586	.268	43.0	12.7	30.3	.57	0.188	(Var.)	M. rain; aft. and ev. cl'y; snow during night, about ½ in. *Bar. hig'st* 30.610.
9	30.378	.208	36.3	4.0	33.7	.89		NW.	Cloudy; morning drizzling.
10	30.323	.060	33.7	4.0	24.0	.44		N.	Clear.
11	29.957	.366	31.8	3.5	30.7	.88	0.076	NE.	Cloudy; morning snow.
12	29.745	.212	38.7	6.8	37.7	.90		SW.	M. fog; cloudy.
13	29.517	.228	45.5	8.8	49.7	.84	0.016	(Var.)	M. fog; aft. rain; ev. clear.
14	30.085	.568	21.3	24.2	12.7	.45		(Var.)	Clear.
15	29.993	.094	29.7	8.3	28.0	.69		SW.	Cloudy.
16	29.946	.048	36.7	6.0	28.3	.56		(Var.)	M. cloudy; aft. and ev. clear.
17	29.905	.095	37.3	1.7	35.3	.82		NE.	M. and aft. cloudy; ev. fog.
18	29.654	.251	39.2	3.5	29.0	.51		NW.	M. cloudy; aft. and ev. clear.
19	29.643	.050	32.7	6.5	19.7	.36		W.NW.	Clear.
20	29.670	.031	32.8	2.2	25.7	.61		(Var.)	M. and aft. cloudy; ev. clear.
21	29.652	.115	36.7	3.8	33.8	.96	0.529	NE.	Rain all day, very high wind at night.
22	29.540	.296	35.3	8.7	23.3	.53		W.	M. and aft. cloudy; ev. clear.
23	30.015	.475	24.8	10.5	21.3	.76		W.	Clear.
24	29.911	.104	29.5	4.7	27.3	.79	0.071	NW.	M. *Snow*, aft. and ev. cloudy.
25	29.858	.054	22.7	6.8	19.0	.65		(Var.)	M. cl'r; aft. & ev. cl'y. *Th. lowest* 16°.
26	29.236	.622	29.5	7.5	27.0	.84	0.300	(Var.)	Snow during night; day, rain, hail & snow, about 3 in. *Bar. lowest* 29.163
27	29.556	.320	23.3	6.2	17.8	.58		SW.	Cloudy. [wind during night.
28	29.606	.247	36.7	13.3	31.7	.65	1.169	NE.	M. cloudy; aft. and ev. rain; high
29	29.567	.258	36.5	8.5	31.0	.72		(Var.)	M. fog; aft. and ev. clear.
30	29.904	.337	27.3	9.2	25.3	.78		SW.	M. and aft. cloudy; ev. clear.
31	30.023	.118	25.8	3.2	25.3	.78		W.	Clear.
Means for Jan. 1855	29.971	.206	34.4	6.7	30.0	.72	2.601	N. 17½° W., 46–100.	
4 yrs	29.959		30.7		30.4	.78	2.193	N. 56° W. 51–100.	

The Monthly Range of the Barometer was 1.447 inch., and of the Thermometer 46°.

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THE

MEDICAL EXAMINER.

NEW SERIES.—NO. CXXIV.—APRIL, 1855.

ORIGINAL COMMUNICATIONS.

Case of Gastrotomy for the removal of a Leaden Bar.—Recovery.

By T. B. NEAL, M. D., Columbus City, Iowa.

Editor Medical Examiner:

DEAR SIR:—I transmit, for insertion in your valuable journal, the following remarkable and perhaps unique case.

The subject of this notice, L. Bates, æt. 27, resides at Wapello, twelve miles from this city. During the three days preceding Christmas last, he had been drinking freely of common whiskey; and on that day, while intoxicated, attempted, on a wager, to swallow a bar of lead. The bar was 10 inches long, ½ by ¼ inches thick, and weighed one pound.

Thrusting it far down the œsophagus, it slipped from his grasp, and immediately entered his stomach. Dr. Bell was sent for at once, but as Bates had formerly been a juggler, the Doctor, thinking that he was at some of his tricks, refused to go. Bates, not much concerned at the non-attendance of the physician, worked for three days after the accident, in a pork-house, with but little inconvenience. During the night of the third day, however, he was seized with great pain in the stomach, accompanied with shooting pains along the spine, extending from the lumbar region to the sacrum, and thence to the hips. The next day he walked to Columbus, a distance of six miles, and sent for Dr. Robertson, the oldest physician in this county, to attend upon him. Dr. R. requsted me to see the case with him. We found him, on the fourth day, comparatively easy. His tongue was white, breath very foul, and bowels constipated.

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Upon careful examination, the œsophagus was found perfectly free and unobstructed. We administered to him morphia in small doses, and attempted to act upon his bowels and neutralize the poisonous effects of the lead by large doses of sulphate of magnesia. Under this treatment, although the bowels were but slightly disturbed, he was rendered astonishingly comfortable, and could walk about a little. On the 3d of January, the 10th day after his accident, the severe gastric pain again returned, accompanied with vomiting, and other symptoms of gastritis.

The operation of gastrotomy was now resolved upon. Dr. Bell, of Wapello, performed the operation by making an incision through the walls of the abdomen, from the umbilicus to the false ribs, four inches in length and two inches to the left of the median line. The peritoneum being divided, Dr. Bell introduced his hand, and pushing back the protruding intestines, found that the bar of lead was nearly perpendicular, the upper end inclining a little to the left. The bar was pushed up, until the lower end came opposite the abdominal opening. It was then seized, and an incision made in the walls of the stomach, just large enough to admit of its extraction by means of forceps. The contraction of the muscular coat of the stomach caused the incision in the organ to close perfectly and without trouble. The external wound was stitched, and a compress applied.

The operation was performed between three and four o'clock, P. M.; the day was cloudy, and towards sunset grew quite cold. The patient was entirely under the influence of chloroform until about two minutes before the last stitch was taken, when he revived somewhat, and expressed himself as feeling better than he had done before. When the chloroform was first administered to him, he vomited freely, hence, when the opening was made into the stomach nothing escaped therefrom, that viscus containing nothing but the leaden bar.

For the ensuing three days the system of the patient was kept under the influence of opium, and nothing but mucilaginous drinks, in small quantities, allowed as diet. He recovered as well as a patient does of uncomplicated gastritis.

I give you below the condensed notes of the progress of the case, taken by Drs. Bell, Robertson, and myself.

January 4th, 10 A. M.—Patient tolerably quiet; pulse 85, and moderately full; some fever and thirst; vomited once, and

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bowels moved freely during the night, though he has been taking small doses of morphia every two hours; complains of pain in the stomach and bowels; continued the morphia, and ordered two tablespoonfuls of toast and water every two hours.

3 P. M.—Patient still quiet; pulse 85, and rather hard. Took ℥x. blood from the arm. Continued morphia and toast-water.

January 5th, 10 A. M.—Rested well last night; bowels undisturbed for eight hours, then at 4 A. M., watery dejections; complains of nausea; pulse 83, and soft; tongue white; no soreness in the gastric region; some cough; ordered the following pill every two hours and a half:—

℞. Hydrarg. Chlorid. mit. gr. ss.
Pulv. Ipecacuanhæ gr. j.
Morphiæ Sulphat. gr. ¼.
M. ft. pil. i.

5 P. M.—Complains of heart-burn, nausea, thirst, and frequent alvine evacuations; pulse 73, strong and full; craves acid drinks. Prescribed a weak solution of citric acid; it did not appear to agree with the stomach; at 9 o'clock slight vomiting: therefore directed morphia, gr. ss., ipecac. pulv. gr. ii. At 11½ o'clock, administered morphia, gr. ss. In half an hour patient fell into an easy sleep, his pulse growing softer. Directed gum-water and ice-water, a table-spoonful alternately every half hour, and the morphia every two and a half hours.

January 14th.—Met patient standing in the door; appetite good; pulse 70, and soft; wound looks well; dressed it, and ordered one blue pill, to be followed by enema if it failed to operate.

On the 16th the wound was nearly healed, and he had walked half a mile to see a neighbor. At the time of writing this hasty epistle, (Feb. 19th,) he has been out of the settlement some two weeks, and I learn has been at work. What his exact condition is at present, I do not know, not having seen him since he began to go abroad. Very respectfully, &c., T. B. Neal.

Note.—There must be very few cases of this operation on record, as we have succeeded in finding but one, which is described in Chelius' System of Surgery, in a note by Mr. South: "Barnes," he says, "quotes from Becker the case of a young peasant, who on 29th May, 1635, whilst endeavoring to produce vomiting with the handle of a knife, let it slip from his fingers and pass into the stomach. He

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was much frightened, but able to go about his usual occupation. It was, however, determined to remove the knife by operation, which was done on the 9th of July following, by a surgeon and lithotomist, named Shoval. 'A straight incision was made in the left *hypochondrium*, two fingers' breadth under the false ribs; first through the skin and cellular membrane, then through the muscles and *peritoneum*. The stomach subsided and slipped from the fingers, which prevented it from being immediately seized; but it was at length caught hold of with a curved needle, and drawn out of the wound. A small incision was then made into it upon the knife, which was then easily extracted. The stomach immediately collapsed. After the external wound had been properly cleansed, it was united with five sutures, and tepid balsam poured into the interstices. Tents impregnated with the same balsam, and a cataplasm of bolar earth, the white of egg, and alum, were then applied.' (P. 324.) Two sutures were removed next day, on the following day two more, but the fifth is not noticed. On the fourteenth day after the operation the wound had healed. Dr. Oliver saw this knife at Königsberg in 1685, and says it was six inches and a half long. The patient completely recovered."

This is the only instance of Gastrotomy proper we have been able to find recorded. The rarity of the operation is no doubt owing to the fact that most substances capable of entering the stomach, pass eventually, even though quite bulky, into the intestine; in which case Enterotomy may be required for their extraction. Of this latter operation, for the relief either of intestinal obstructions or the removal of foreign bodies in the bowels, numerous cases are on record. Mr. Benj. Phillips, in an excellent monograph, published in the 31st volume of the Royal Medico Chirurgical Transactions, relates twenty-seven cases of intestinal obstruction, for which operations were performed; thirteen of these were successful, though many of them were at the cost of establishing an artificial anus. An interesting case is related by Dr. White, of New York, in the New York Medical Repository, vol. x. 1807, where a silver spoon, swallowed by a patient while delirious, was removed from the ileum.—EDITOR.

A Case of Polypi of the Conjunctiva. By JOHN NEILL, M. D., Surgeon to the Pennsylvania Hospital.

Conjunctival polypi are so rarely met with, that even the best illustrated works on Ophthalmic Diseases contain no drawings taken from patients with this affection.

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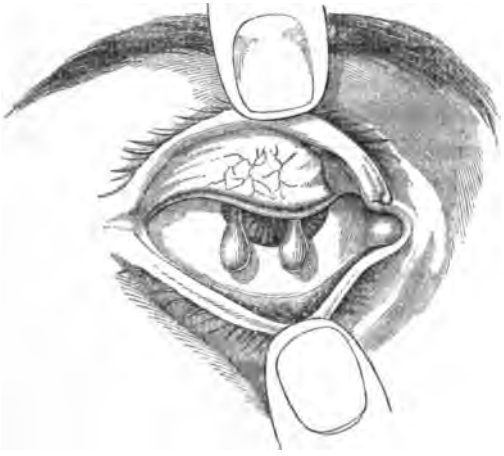
Even the splendid work of Dalrymple, replete as it is with beautifully executed engravings, is deficient in this respect.

The standard works of the day—Lawrence, Walton, Jones—have no representation of the kind. Indeed the affection is scarcely alluded to by many writers, and no mention is made of it by others. Walton merely speaks of a case occurring in Mr. Smee's practice.

The subject of this growth came under my notice in 1851, at Wills Hospital. He was a young man about 28 years of age, who applied to the hospital to have a foreign body removed from the eye.



The polypi were two in number, pedunculated and attached to the conjunctiva of the upper lid near the upper margin of the tarsal cartilage. They were soft, moveable, and of a light pink color. The size is well represented in the wood cut. The most pendulous portion of each was somewhat compressed in its antero-posterior diameter. They seemed to have occasioned but little inconvenience to the patient, and it is probable that he would not have presented at the Hospital, had he not been suffering from a piece of straw under the lid. In the ordinary position of the lids they could hardly be observed, but upon everting the lid they appeared as represented in the cut.

They were removed by the scissors without much pain, and the examination of them microscopically exhibited an epithelial covering externally, and a delicate areolar tissue within.

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Animal and Vegetable Physiology.

The nutritive functions of digestion, circulation, and assimilation, have for their object the support of life, by furnishing to organized beings, without ceasing, new and proper materials for the development of their organs, and the reparation of the waste occasioned by the movements of animality. But it is the nature of all organized beings to have but a limited existence. Their organs finally lose the faculty of sustaining life, and the cessation of their functions brings on death. All the organized beings existing on the earth, end by disappearing from its surface, and their races would become extinct if nature had not given them the means of reproducing and multiplying themselves.

Through reproduction the power of life is made to pass without ceasing into other bodies. Our parents are reproduced in us, as we are engendered anew in our descendants. Thus the indidual perishes, but the species is continued.

Wherever there is life there is attraction. The appearance of matter in organized beings implies a draught on the resources of nature. Each germinating seed exercises a special attraction on the earth and atmosphere, and dead inorganic matter collects around it to be embued with vitality, and moulded into an organized form. But there is only a limited amount of organizable material existing in nature, and her resources would therefore be speedily exhausted, were there not an equivalent amount returned. The matter which composes the bodies of animals and plants is only *borrowed* from the earth and atmosphere for a *little* time. A rotation of these substances is absolutely necessary.

Wherever there is death there is repulsion. The matter which was collected by life is scattered by death. The plant or animal decays and disappears from our sight. Both are alike dissolved by the repulsive principle into earthy elements and invisible gases, and the atoms held together by life thus sundered by death, once more roam through the universe, and gather round the living centres of attraction, to be again remouldered anew into living organized forms.

Matter, whether organized or inorganic, never perishes. Every

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atom bears on it the impress of its everlasting and infinite author. If it disappears from observation, it is only to enter into new combinations. You may crush the parts of a body to powder, melt it into a liquid, or, by a still intenser application of heat, dilate it into a gas, and dissipate it in vapor; but it still exists and can in many instances be collected again into the same body, without loss of weight or change of form. Mercury and water may be converted into vapor without the loss of a single particle.

The decay of animal and vegetable bodies, is only a process by which their particles are liberated to assume new forms.

What life borrows, death will sooner or later claim. The living incur a debt which must be paid. Matter is the grand circulating medium of nature, and all that is loaned—even to the minutest particle—must be returned. Nothing is ever lost by nature. Death is the agent employed to enforce the claim, and we must surrender what we have appropriated. We may be unwilling to pay the debt, but in this instance, at least, no fraud can be practised. We may cheat our fellow men out of "their own," but nature, never.

It is this ceaselsss return of organizable material which keeps up the continuity of the stream of life, and renders the fountain inexhaustible. Hence the matter of which every animal and vegetable was formed in the earliest ages, is still in existence. We, ourselves, are composed of matter as old as the creation; in time we must suffer, in our turn, decomposition, as every living body has done before us, and thus resign the matter of which we are composed to form new existences.

But it is not only by the dissolution of their fabric, but by the detachment of a portion of it at a certain period of time, in the form of an egg or seed, that organized beings reproduce each other. Each egg or seed encloses a miniature animal or plant called an embryo, which developes into the likeness of its parents, in consequence of receiving from them an influence which impresses on it its peculiar vital movements.

That all animals are produced from eggs, *omne vivum ex ovo*, is an old adage, abundantly confirmed by modern researches. In tracing back the successive phases of animal life, we invariably arrive at an epoch when the incipient animal was enclosed in an

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egg. It is then called an embryo, and the period passed in this condition, which is more or less long, is called the embryonic period.

Now, plants have sexes or sexual organs as well as animals. The female sexual organs in plants are called carpels. The pistil, or central organ of the flower, which consists of stigma, style and germen, is only a fully developed carpel. The male sexual organs are named stamens, the anthers of which contain the pollen or fecundating matter. The stamens and carpels are therefore the essential organs of reproduction in plants, and the parents of the vegetable embryo, since it is their natural action which contributes to its development.

The ovules contained in the germen are the bodies which, after impregnation, become seed. Their existence may be verified by making a section of the germen, whilst the flower is still in the bud, before the anther cells had been ruptured, and their polleniferous contents discharged. In this condition they undoubtedly correspond to the unimpregnated ova of animals. The line or ridge on the interior walls of the ovary, to which the ovules are attached, is called the placenta. The ovule is attached to the placenta, either directly, or by a prolongation or umbilical cord termed the funiculus. It is through this last organ that vessels pass into the ovule, which communicate with the nourishing walls of the germen, conveying to it those nutritive materials which contribute to its further development.

The reproductive function is exercised by animals and plants when they have attained to the full development of all their parts, or arrive at an adult state. The period when this occurs, varies greatly in each species, and depends entirely on the peculiarities of its constitution. When this epoch arrives in plants, a visible change in their outward appearance takes place; the stem ceases to elongate, and its internodes no longer developing, the leaves remaining crowded together, in closely-approximated whorls, undergo peculiar modifications in form and coloring, and a flower is produced.

The period of ovulation is to animals what flowering is to plants, and indeed few phenomena are more interesting to the student of nature, than those exhibited by animals at the pairing season. Then their physiognomy is the most animated, their

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song the most melodious, and their attire the most brilliant. Some birds appear so different at this time that zoologists are always careful to indicate whether or not a bird is represented at the breeding season. Similar differences also occur among fishes and other animals whose colors are then much brighter than at any other time. Thus in early spring when plants put forth anew their leaves and flowers, we have renewed at the same time the feathers of birds, the hair of quadrupeds, the scales of fishes, &c. Both the animal and vegetable creation are alike re-clothed. It is the season of love and happiness. All nature rejoices. To many organized beings this season comes only once. In this respect many animals are like annuals amongst plants; the act of reproduction exhausts their vital energies, and they perish as soon as they have given birth to their eggs.

Reproduction, whether in animals or plants, is always attended with an exhaustion of their vital energies. The organized being either perishes at once in giving birth to its offspring, or the term of its existence is greatly abbreviated. Thus, as soon as the anther-cells or male sexual organs of flowers have discharged their pollen on the stigma of the pistil or female sexual organ, and the ovule in the germen has received the impregnating influence, the sap is immediately drawn from the other parts of the flower to the germen, which begins to swell and enlarge, and a series of changes soon announces that a new vitality is established in the impregnated parts to the detriment of the others. The flower, beautiful up to this moment, and adorned with the most lively colors, loses its pleasing aspect. The petals fade and fall. The stamens having fulfilled their functions, prove the same degradation. The germen alone remains in the centre of the flower,—the upper portion of it, the stigma and the style, is, however, useless to the plant, and, therefore, disappears equally with the other parts. The germen continues swelling and enlarges until it finally forms a fruit abounding with seed, by which the species is continued. It is not an unusual thing to see the calyx persistent with the germen, and contributing along with the green walls of the pericarp or seed vessel to the nourishment of the young embryo. The vitality of *all* the organs of the flower is, however, exhausted before the seed and the embryo which it contains are fully formed, and the calyx and peri-

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carp alike perish when they have fulfilled this the last and most important function of vegetable life.

The seed or ovum is but a retreat into which exhausted vitality retires in order to recover its wonted energies; and in all the lower forms of organized being it is also a shelter for life during the prevalence of those conditions which are unfavorable for its development. Accordingly, we find that the seed of many early flowering annuals, germinates again in Autumn, as the light and heat of the sun are much the same as in early Spring. A little family of plants is thus seen rising around their aged and dying parent. In some instances the individuals of this family arrive again at an adult state, and flowers as well as leaves appear; generally, however, the germinating seeds can only produce leaves, the approach of cold weather arresting all further development. These and many other appearances in nature are deserving of a far greater share of attention than they have hitherto received. All practical gardeners and botanists are aware that there are many plants which flower in the Spring, and again develope in Autumn on the return of SIMILAR CONDITIONS of light, temperature, and moisture.

That the vegetable machinery would continue longer in motion, and simply stops in consequence of the decreasing light and heat of the sun, is evident from the fact that the annual and herbaceous plants of temperate climates become ligneous and persistent, in the warm and sunny regions of the tropics. The castor oil plant (*Ricinus communis*) for example, in Pennsylvania, puts forth large peltate-palmate leaves, and grows from three to eight feet in height, but is destroyed by the first frosts of Autumn. In the happy regions within the tropics its stem is ligneous and persistent, and it grows into a powerful and lofty tree. It is the same with the Euphorbiaceæ, Leguminosæ, Boraginaceæ, Labiatæ, Hypericaceæ, Verbenaceæ, Polygonaceæ, Rubiaceæ, Compositæ, and a host of other plants which we tread under our feet in Pennsylvania; but which elevate themselves majestically into the air in warm countries. Excepting on the mountain summit snow never falls on any other part of the landscape lying within the tropics, and the traveller wanders beneath the arborescent forms of Leguminosæ, of Boraginaceæ, and of Euphorbiaceæ, or if he be in the island of St. Helena, reposes beneath

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the shade of forests of Solidago of Sonchus, and of Echuim. The herbaceous and perishable annual has been transformed into the ligneous and enduring perennial. The plant whose humble growth and delicate beauty drew our admiration, as it grew at the foot of some oak or buttonwood, is now itself one of the noblest trees of the forest. Development has gone on, and we see the result of the magic influence of a continuity of solar warmth and brightness in the majestic form which now stands before our eyes. H. C.

West Philadelphia, March 13th, 1855.

A case of Natural Labor in a Negro girl, thirteen years of age. By W. S. Stoakley, M. D., of Northampton County, Va.

I was called August, 1854, to see a negro girl, aged thirteen, suffering from colic. Upon examination, I was surprised to find in bed with her a child just two weeks old, which she claimed as hers.

The child was of the ordinary size, (larger, if anything, than the generality of children of that age,) hearty and hale. The mother was at the time troubled with a colic from eating watermelon, previous to which she had been perfectly well, not having had the slightest ailment of any kind since her confinement. On inquiry, I was told that the labor was a natural and easy one, and of the common duration. The pains were strong and effective. The placenta came away in fifteen minutes, and the womb returned as near as possible to its non-gravid condition, closing up with powerful contractions the bleeding mouths of the "rete-vasculosum," and instead of the torrents of blood, common on such occasions, gushing from the enlarged and anastomasing bloodvessels of the womb, nothing was seen but the normal quantity; the bounds of health were not overstepped. *If* she had been "under the shade which beechen boughs diffuse," nature would have "done her part," and the hand of art would have been an intruder. I placed my hand on her hypogastrium fourteen days after delivery, and found the uterus had returned to its unimpregnated state. I observed no flabbiness about the abdominal muscles. To all appearances she had regained her natural shape and symmetry.

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BIBLIOGRAPHICAL NOTICES.

On the topical Medication of the Larynx in certain Diseases of the Respiratory and Vocal Organs. By EBEN. WATSON, A.M., M.D., &c. London: 1854. 8vo. pp. 183.

On the Employment of Injections into the Bronchial Tubes, and into Tubercular Cavities of the Lungs. By HORACE GREEN, M.D., LL.D. ["The American Medical Monthly," Jan. 1855.]

The topical medication of the larynx which would seem to have originated with Sir Charles Bell in 1816, and with M. Bretonneau in 1818, was, as every body knows, first popularized by MM. Trousseau and Belloc in 1836. A translation of the Essay by the last named gentlemen was published in this country in 1841, and five years afterwards Dr. Horace Green put forth his "Treatise on Diseases of the Air Passages." This writer has succeeded in attracting a good deal of attention from the public and the profession, although neither his method nor his pretensions have met with general acceptance with the latter. This must be mainly attributed to the uncandid statements and unscientific descriptions contained in his essays, by which many who would have been tempted to put the method into practice, were deterred from examining it, and inspired with a disrelish for the whole matter.

It was at first doubted whether the probang used by Bretonneau could be passed beyond the vocal chords, and although the greater number of persons no longer deny the possibility of this manœuvre, some are still incredulous, among whom no less names may be mentioned than Erichsen, who is convinced "that the sponge has never been passed, in the living subject, beyond the true vocal chords," and Trousseau who is stated to be equally unbelieving. But Dr. Green has resorted to a very ingenious expedient to put these gentlemen in the wrong. It seems that Dr. Marshall Hall, on his late visit to the United States, was still of the number of those who believed that the probang passed into the œsophagus and not into the trachea, and he suggested as an *experimentum crucis* that the tube introduced should consist of a catheter through which the air could freely pass. Subsequently

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this was done, and the patient breathed through the artificial trachea so freely as to extinguish a candle placed at its further end, even when the lips and nose were so far closed as to prevent the discharge of any air from them; besides which an India rubber bag tied over the open end of the tube was seen alternately to collapse and expand as the patient breathed. These conclusive experiments are said to have been witnessed by several physicians of well known skill and reputation for veracity.

Whatever doubts may have been, or still may be entertained regarding the possibility of introducing a probang into the larynx, an experiment such as that just described having once been performed must put an end to them, however much people who are accustomed to attach considerable importance to respiration as a means of "getting one's living," may shake their heads, and suggest the possibility of its being after all no more than a conjurer's trick. Just as Dr. Watson, with all his knowledge and skill, finds his belief staggered by certain other statements of his American confrère. It seems that Dr. Green wrote as follows to the *Lancet*:—"In cases where I have had reason to believe that ulcerations of the membrane had extended below the bifurcation, I have employed a probang nearly straight, and have pushed this instrument not only to the division of the trachea, but *turning it aside*, have passed it at will, *in many instances into the right or left bronchus*, with as much ease and safety as the catheter is introduced into the bladder." After pointing out that such a statement as this is not likely to convince the incredulous, and characterizing the case which Dr. Green adduces to support it, "as more objectionable than the statement it was intended to corroborate," Dr. Watson says, "Of those who can admit the possibility of the treatment to which the patient was subjected, few will venture to assent to the diagnosis of the ulcer in the right bronchus, and still fewer will affirm that the aphonia could be occasioned by such an ulcer, supposing it to have existed, or was likely to be removed on its cure."

Nor is Dr. Watson quite able to digest the sponge, which, according to Dr. Green, dropped into the windpipe of a man whose larynx Dr. Peaslee was cauterizing. The statement, he fears, has done "much damage to the cause which Dr. Green adduced it to support; for by the most undoubted rule of arithmetic, the

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worthy professor would have us believe that the sponge he removed from the trachea (or right bronchus, for it is not very clear which is meant) was one half inch multiplied by fourteen in diameter, viz., seven inches; and, indeed, that the whole mass was even larger than this at first; that it was seven and a half or eight inches, i. e., two thirds of a foot in diameter. Now this is simply ridiculous, &c."

It appears, too, that while Dr. Green "recommends the use of a bent spatula, with which he seems able to expose the parts to view;" and while Dr. A. C. Post has, "in a number of instances, exposed distinctly to view the laryngeal surface of the epiglottis," the less fortunate Dr. Watson has been "unable to see any part of the larynx, except, in certain cases, the *tip* of the epiglottis." (p. 69.) Dr. W. also rejects the use of a bent spatula, and assures us that "the only way of assuring one's self that he enters the rima-glottidis, is to introduce the fore finger of the left hand into the mouth of the patient, passing it over the root of the tongue, till its point comes in contact with the top of the epiglottis. By now maintaining the finger in this position, and cleverly passing the sponge of the laryngeal probang over it, the rima-glottidis is reached with perfect certainty." (p. 23.) The introduction of a sponge through this opening he admits to be opposed by the actual narrowness of the passage, as well as by the spasmodic closure of the glottis, and he therefore insists upon the necessity of educating the part to bear this manœuvre, and seizing a moment of inspiration to accomplish it. It will be seen, therefore, that the operation is not quite so simple as it has pleased some persons to say that it is.

In his chapter on the mode of action of topical agents used in laryngeal disease, Dr. Watson is hardly more successful than other writers upon the phenomena and cure of inflammation. In one place (p. 33) he says that when a caustic is applied to the inflamed web of a frog's foot, "the *stimulant* solution causes a renewed and increased *dilatation* of the blood vessels, and the retarded current moves on in them more freely than before," while (p. 88) it is afterwards stated that the topical application "removes the remnant of inflammatory action which had still lingered in the glottis, by causing *contraction* of its blood vessels." These statements we are altogether unable to reconcile

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with one another; each seems to have been suggested by the discussion on which the author was more immediately engaged, and neither is applicable to all the results of the topical use of the caustic solution.

In several successive chapters the topical treatment is described in its application to acute and chronic laryngitis, aphonia, hooping cough, spasmodic asthma and spasmodic coughs, laryngismus, and the laryngeal complications of pulmonary phthisis.

In simple acute laryngitis the author warns us not to use cauterization until after the inflammatory symptoms are subdued, nor to employ a strong solution when these have been very active. In membranous croup he is altogether opposed to its employment, unless before any exudation has been poured out, (p. 50) which is equivalent to saying before there is any croup to treat. He analyses the cases which Dr. Green published as cases of "croup" treated by caustic, and comes to the conclusion, long ago demonstrated in this country, that in only six out of the thirteen cases the symptoms resemble those of true croup, and that there is nothing to show any favorable result in these. Indeed Dr. Watson has found in cases of croup "the symptoms of congestion in the laryngeal lining, such as pain and difficulty of breathing, increased by the application of even a weak solution of nitrate of silver, and the very act of applying the solution is hurtful in these cases." The large and intelligent experience of our author is, it will be observed, directly opposed not only to that of Dr. Green, but also to the results of so candid and enlightened an observer as Dr. Ware.

As regards "follicular disease of the larynx," a stalking-horse from behind which Dr. Green has acquired so large a *clientelle*, Dr. Watson is disposed to regard it altogether as what Carlyle would call "a sham." To this purpose he cites, as others have done before, the results of pathological investigations by Louis, Trousseau, Belloc, Porter, and Copland, and declares that there is no evidence, even in Dr. Green's writings, "which is worthy to be considered as establishing the matter," and that "the assumption of the existence of such a lesion as the cause of certain symptoms is neither necessary nor philosophical." (p. 67.) He, on the contrary, connects follicular pharyngitis with dyspeptic derangements just as Dr. Chapman did originally, and insists that

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whatever else the practitioner does, "these must be set right before his patient is cured."

Aphonia is referred by Dr. Watson to lesions affecting the glottis, such as the thickening or the palsy of its muscles, and to others consisting of relaxation, thickening, or *ulceration* of the mucous membrane above or below the glottis. Of the last mentioned lesion which has been so largely speculated upon as a trading capital, and the existence of which in chronic disease, independently of syphilis or tuberculosis, has generally been denied by pathological writers, Dr. Watson remarks that he believes in their existence "independently of tubercle in the lung, in a class of cases which, however, are neither numerous nor ever quite free from the possibility of doubt as to the diagnosis."

The chapter on the laryngeal treatment of hooping cough is extremely interesting. The author believes that if the local and inflammatory element is met by cauterization after the acute stage is passed, the spasmodic element will of itself subside. As to the practical results they are indeed most encouraging. Taking the cases treated by M. Joubert and by Dr. Watson, we find that 57.4 per cent. were cured in two weeks, and of the remainder 36.5 per cent. were cured within four weeks. The usual treatment, on the other hand, requires an average duration of one and a half to three and a half months. The ordinary strength of the solution employed by Dr. Watson is of fifteen grains to the ounce, but weaker at first than subsequently when the inflammation has subsided. He points out as conditions of success the regulation of the patient's digestion so as to prevent vomiting, the use of the caustic every day or every second day when the stomach is empty, the use of the finger or the handle of a teaspoon instead the "formidable spatula," and the avoiding to enter the larynx while it is still in a state of catarrhal inflammation.

The usefulness of cauterizing the larynx in spasmodic asthma is maintained by Dr. Watson. He very properly excludes from consideration cases of organic disease, such as emphysema and organic affections of the heart, but he assumes that closure of the glottis is an important element of the nervous disease, with which also spasm of the trachea and of the ultimate bronchia combine. It cannot be claimed that any of the cases adduced or of the arguments employed in the least degree demonstrate either the

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statement just made or the efficacy of the proposed treatment in spasmodic asthma. All of the cases involve an inflammatory element, and the nervous element is far from constituting the whole disease. It is therefore useless, we think, to examine the influence of laryngeal cauterization upon them.

The caustic is very properly regarded as of secondary importance in those cases of cough which are said to depend upon dyspepsia, but which are in reality connected with the deranged state of the muciparous follicles of the pharynx which complicates that of the stomach. Attention to the dyspeptic symptoms will here effect a cure even without the topical medication, but this latter hastens and confirms it. A similar remark will apply to hysterical coughs; but in neither case is the caustic essential, or capable of performing what other remedies cannot.

In the chapter on Laryngismus the author considers this symptom chiefly as one of the phenomena of epilepsy, and claims that cauterization of the larynx mitigates the spasms by correcting this element of the attack. But all cases of epilepsy are not marked by laryngismus, and hence all are not suited for this operation any more than for that of tracheotomy proposed by Dr. Marshall Hall.

The Laryngeal Complications of Pulmonary Phthisis are treated of in the last chapter of the work before us. The author endeavors to prove that the cough is not only an annoyance to the patient, but a serious aggravation of the disease by occasioning hæmoptysis, and increasing the pulmonary affection. It is to be feared that his ingenious argument amounts to nothing more than an attempt to make out a case; for, as every one knows, hæmoptysis is apt to be one of the earliest symptoms of consumption, and often occurs before any cough whatever exists, while the cases in which violent coughing produces it are exceedingly rare. When the larynx itself is affected by inflammation or by ulcers, undoubtedly these conditions are aggravated by the cough, and their cure, if that can be accomplished, or their quiescence, if it cannot, is to be sought by every possible expedient as a means of promoting the patient's comfort, and even of prolonging his life. The topical treatment of the larynx will sometimes secure this end; but the author cautions us against its use, in very acute cases and during acute exacerbations of chronic

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cases. The illustrations which he publishes show nothing more than the palliation of the accidental laryngeal symptoms, and he carefully avoids asserting that he has effected a cure of consumption in any case whatever. In this he is truthful, and more modest than his American prototype, who was wont to mystify his readers by an ingenious play upon the word *tuberculous*, which meant enlarged follicles or genuine tubercles, according to the exigencies of the occasion.

In the paper of Dr. Green we find that he employed his ability to pass the probang into either bronchus, for the purpose of applying a solution of nitrate of silver to the diseased membrane of the bronchi, and even of injecting, "if possible," the same solution into tubercular excavations. His first case presented "a large cavity in the apex of the left lung." He introduced "an elastic tube thirteen inches long through the trachea and into the left bronchial division," and through it "injected one drachm of a solution of nitrate of silver, of the strength of forty grains to the ounce of water into the lung." A few minutes afterwards "the patient stated that she felt a warm sensation in the upper portion of the left lung," i. e., in the seat of the cavity. Apart from the bold assertion that the instrument was introduced into the left bronchus, we are called upon to believe that a drachm of liquid, ascended against the force of gravity from the root to the apex of the lung, and that it produced a warm sensation in a cavity which could possess no sensibility whatever, instead of being felt in the lower bronchia where alone it could have been diffused. On reading over these details once more we cannot but ask, are they meant seriously? or is the author, having already tested the credulousness of so many physicians, amusing himself quietly at their expense?

After this first *successful* experiment, Dr. Green states that he treated thirty-two patients laboring under tubercular or bronchial diseases by the same method; and nine of them presented cavities in the lungs. All of them, it is stated, appeared to be benefitted, and some of them greatly, and "in those cases where tubercles exist, whether the exudation be in a crude state, or beginning to soften, the beneficial effects of the treatment have been thus far as uniform and certain, although the improvement has not been as rapid in these as in the former cases, [viz., of

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chronic bronchitis.] Most of these cases are still under treatment, and the final result cannot be foretold." On the contrary, we think that nothing is easier. Meanwhile, let our readers observe out of what stuff medical experience may be manufactured.

The following passage from Dr. Watson's work (p. 28) will serve as a commentary upon the subject of the last paragraph, which we cannot trust our pen to write of as it deserves.

"I need only now remark, in conclusion, that after the probang has passed through the glottis, there is no obstacle to prevent its being carried down the whole length of the trachea; but this must be done so hurriedly that no deliberate turning of the instrument into either division of the bronchus can in my opinion be accomplished; and I know from experience that few or none will be found so calm and so self-possessed as to submit to its being even attempted. Whenever the patient feels that the *besoin de respirer* is becoming strong, all other thoughts are dismissed, and he struggles to rid himself of the obstructing cause. The passage of the probang, even quickly, down part of the trachea, is itself a severe operation, and should never be performed upon a patient who is not habituated to the application of the remedy to the upper parts of the windpipe."

Autobiography of Charles Caldwell M. D, with a preface, notes, and appendix, by HARRIET W. WARNER. Philadelphia: Lippincott, Grambo, & Co. 1855. One vol. Oct. pages 454.

To review these 454 pages to our own satisfaction, would require more space than can be awarded to them in a medical journal; we shall therefore do little more than notice some points that cannot fail to interest the medical public. The book is deeply fraught with a mixture of good and evil, either of which it is well adapted to teach, according to the mental habits of the reader. But as all the good it contains is amply supplied by other and better books, we cannot fail to wish, that the distinguished author had given it, as Petrarch said of his letters, *to Vulcan to correct.*

Autobiography is a very difficult and dangerous task, owing to the malevolent passions that may be enlisted in the work. Selfishness and vanity lead an author to overestimate himself and to depreciate others; malice and revenge are ever ready to play their hateful part; and a long life of envy must cloud the mind of the octogenarian writer with vapors of poison.

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From all these embarrassing influences the two autobiographers, Franklin and Priestly, whom Dr. C. often refers to as noble exemplars, are totally free. Their success in life far transcended their hopes, and finally placed them on that shining eminence from which they looked back on life as on a cloudless day, wherein nothing was seen that could disturb their serene satisfaction. All the noxious vapors which had sometimes annoyed them in their long journey of life, were now lost in one cloudless glory; and they went down the hill of life plucking flowers and fruits, as also reveling in sweet recollections.

Such was not the happy lot of Dr. C. He had, by his own confession, fixed his ambitious heart on a certain chair in the University of Pennsylvania, and when this had become vacant by the death of Rush, he had the mortification to see it filled by one who was not only his personal enemy but was also greatly inferior to himself. Yet a harder fate than even this awaited him; for this hated incumbent soon passed away, and our longing aspirant was again set aside by the "superior tact" of his particular friend, whom he tho't far less qualified than himself in the various attributes of a professor of medicine.

Thus doubly mortified he soon determined to leave Philadelphia, where he had laboured hard for 27 years, in expressly preparing himself for a teacher in the great American school and in the very chair long honoured by the eloquence of Rush.

To suppose that the presumed causes of this cruel disappointment did not rankle in his mind, is to demand for the author more Christian charity than many will accord to him or even claim for themselves. He says plainly, that he considered Rush as the principal cause of his failure, and hence he has written much of that great and good man that cannot be received but as reveries often repeated, till they are believed to be facts. That his memory had greatly failed, I know from his incorrect relation of one fact at which I was present—the hissing scene related at p. 294. He was at the upper part of the chemical theatre and when the lecture was closed and the students were rushing away, a few of them called out *Dr. Caldwell* and hissed. He received this with apparent placidity, I suppose contemptuous, and then striding over the benches, he said to the professor very pleasantly —"no animals hiss except snakes and geese."

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But his deceitful reveries made other impressions on his mind and he says—

"I then advanced into a more conspicuous part of the room, and with a menacing action of my arms toward the place from which the sound had reached me, exclaimed in a calm and contemptuous voice: 'I know of but three sorts of vermin that vent their spleen by hissing; an enraged cat, a viper, and a goose; and I knew not till now, that either of them infested this room.' On this, from the same quarter came the cry: 'Turn him out! turn him out!' And there was immediately around me a party of my own pupils, chiefly from the States of Georgia and Kentucky, to whom I was communicating instruction by lectures and examinations; and who, apprehensive that I might be assaulted, requested me to accompany them out of the room, and they would protect me. My immediate reply, calm and courteous, but as positive as words and manner could make it, was: 'I thank you gentlemen, for your proffered kindness; but I do not need it. I can protect myself.' Raising then my voice, so as to be heard throughout the room, I added: 'From this spot I will not move, until those insolent fellows shall have left the room, unless they remain in it (looking at my watch) until twelve o'clock, at which time I must leave it to make good an engagement. And should any one of them have the audacity to approach me as an assailant, he shall have abundant cause to remember his imprudence and deplore his rashness until the end of his life, which may perhaps be nearer at hand than they are prepared to imagine, for I will precipitate him to the bottom of this pit, and determine by experiment which is the thicker and harder, his brain-pan or that brick floor."

Not one word of this speech was made, nor was there a word said about *turning him out.* He has related what he was accustomed to talk to himself in his moments of wrath, and probably to dream over at night, till the truth was at last supplanted and prolific error deeply rooted. In the real scene, the *angry cat* was not named; but in after times, she was very happily brought in, to make the speech accord with his increase of knowledge.

It must have been this forty-five years revery on old irritations, that led him to make some stories concerning Dr. Rush that cannot be received. No man in his right mind can credit his relation of a scene at his graduation; no one can for a moment believe that a young student stood forth in the presence of trustees, professors and "many of the most distinguished members of the Bench and Bar, the Pulpit and the citizens of Philadelphia at large, together with most of the respectable strangers in the city," see p. 236:—I say it is not credible that a student could

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have stood before this auditory "drawn up to his full height with folded arms, looking slowly and significantly," making the contentious speeches which his octogenarian pen relates; nor will any man who knew Dr. Rush believe the part attributed to him. He was a man of uncommon dignity of deportment and elegance of manners, one who had long associated with the best exemplars, had been no little accustomed to collisions of intellect, and was therefore not easily driven from his propriety by an impudent student, though *drawn up, as he says, to his full height*—nearly 6½ feet—*with folded arms and slow significant looks.* Had we not some friendly regard to the memory of the Doctor, we should stop to make some remarks on these portentous *arms and looks*—but let us read the whole fray as related in the book p. 243, after 54 years of sleeping and waking dreams.

"In my Inaugural Dissertation, as first printed, I inserted a brief account of my letter from Lancaster, respecting the cure of fever by a shower of rain, and the purpose to which Dr. Rush had applied it. That account, however, I had expunged, at the suggestion of the Dean of the Faculty, who frankly told me that he knew it to be unnecessary and useless, and deemed it improper. Still, during my defence of my thesis, Dr. Rush, who was my objector and opponent, referred to it with great virulence and blame. In relation to that objection, however, which was the first he introduced, I completely overthrew and silenced him, and gained by that means a decided advantage in everything that followed.

No sooner had the doctor emptied on my letter his first vial of wrath than I rose, and, addressing the Rev. Dr. Ewing, the Provost of the University, who presided on the occasion, said with great calmness, and in a suppressed tone, 'I was summoned here, sir, as I was given to understand, and of course to believe' (laying on 'believe' a strong emphasis) 'to defend only what is contained in my thesis; not what I have stricken out of it. But if it be your decision (emphasising 'your') that I shall defend also the expunged passage, I am perfectly prepared for the task, and will cheerfully perform it.'

'It is not my decision that you should defend the expunged passage,' said the provost, in a very decisive tone; 'and Dr. Rush has no right to refer to it. In doing so, he is out of order.'

I bowed and resumed my seat, persuaded that a sparring match between the professor and the provost would immediately ensue; for they had never played towards each other the brotherly parts of Orestes and Pylades.

Dr. Rush positively and vehemently declared that he had a 'right to refer to the letter,' and to call on me to defend the account of it which I had inserted in my thesis; and that he would maintain that right. The provost then, addressing himself to me, said: 'Did you not say, sir, that you had expunged from your dissertation the passage in which the letter is mentioned?'

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'I did, sir; and I said so truly. The passage was expunged by me, at the suggestion of the Dean of the Faculty, and is not now in my thesis.'

'I hold in my hand,' replied Dr. Rush, 'a copy of the thesis, in which, at page —, the passage still remains.' In a moment the trustees, to each of whom two copies of the dissertation had just been given, turned to the page mentioned by Dr. Rush, and unanimously asserted that the copies of the pamphlet which they had just received contained no such passage.

I then approached Dr. Rush, with a hurried step, and said to him abruptly, and I doubt not half-mandatorily: 'Pray, sir, allow me to see this pamphlet!'

'Do you doubt the authority of my word, sir,' said he, in an indignant tone, 'as to the contents of your pamphlet, and therefore demand a sight of it yourself?'

In a voice no less indignant, I promptly replied: 'In the present case, sir, as respects the assertion you have made, I doubt all authority but my own eyes;' unceremoniously taking the pamphlet out of his hand.

'Then use your eyes, sir, to your own *conviction*, and the verification of my word,' was the professor's terse and stern rejoinder.

'I have used them, sir, to my full conviction.'

Turning then to the provost, with the pamphlet raised aloft in my hand, so that every one in the hall might see it, I added, in a tone of cutting sarcasm: 'This is a spurious copy of my thesis, procured by what device I know not, and brought here for what purpose I care not.'

Turning again to Dr. Rush, I continued in the same tone: 'You must know this, sir, to be a counterfeit copy of my thesis; for I can prove your having been apprized yesterday that the passage you except to was erased by my direction, at the suggestion, as already stated, of the Dean of the Medical Faculty.'

And I then disdainfully tossed the pamphlet on the table before him, and returned to my place. But, instead of sitting down, I maintained my standing position, drawn up to my full height, with folded arms, and looked slowly and significantly towards that portion of the audience formed by the Trustees of the University and the Faculty of Medicine.

For a moment, not a word was spoken, except in whispers. But, at length Dr. Rush, agitated by a mixture of passions, mortification and resentment being the leading ones, said to me in a half suffocated voice: 'By whom, sir, do you presume to assert that I was informed of the offensive passage being stricken out of this pamphlet?' the thesis being again almost spasmodically grasped in his hand.

'I have said nothing about that pamphlet in your hand, sir, except that it is a counterfeit. But I say that Mr. D—b—n, the printer of my thesis, informed you yesterday that the passage so often referred to was erased by my order. And if he be in this assembly, he will testify to the truth of my assertion.'

'Sir, Mr. D—b—n did not tell me that the passage was stricken out; but only that it was to be stricken out. But finding it still here,

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(pointing to the pamphlet), 'I feel authorized to suppose the order to be withdrawn.'

'Sir,' I replied, with increased indignation, 'the pamphlet now in your hand is the same that you possessed when you saw Mr. D—b—n, before he had made the intended erasure. Had you looked into the copy which, by my direction, he sent to you this morning, and which, I doubt not, is in your possession, you would have perceived that my order to him had been faithfully executed. And there would then have been neither plea nor excuse for this altercation, on account of which I am both mortified and ashamed; yet, for the production of which, I appeal to the audience that I am not in fault—for it is exclusively the product of your own groundless and unjustifiable resentment.'

It was now, that by his vehemence, Dr. Rush drew from me the haughty reply which has never since been forgotten; yet, as far as I know, never altogether correctly reported. It soon after its occurrence, found its way into two or three of the Philadelphia newspapers, and has since been several times republished in New York and Boston papers, and perhaps in those of other parts of the country.

Almost hysterical with rage, the doctor said to me, immediately after the utterance of my last sentence: 'Sir, do you know either who *I* am or who *you* are yourself, when you presume thus arrogantly to address me?'

'Know you, sir?' I calmly, but contemptuously replied. 'O! no; that is impossible. But, as respects myself, I was, this morning, Charles Caldwell; but indignant, as I now am, at *your injustice*, call me if you please, *Julius Cæsar, or one of his descendants!*"

If such a scene as this occurred in the University, it was high time to turn the trustees and professors headlong out of the dishonoured temple. Would the respectable strangers, the Bench, the Bar, &c. who were present, send their sons to a college thus misgoverned? But the truth must be, that no such thing was ever seen there as here related, though Dr. C. says that part of it was published in Philadelphia newspapers "soon after its occurrence." Peter Porcupine *alias* William Cobbett was then a very notable busybody in Philadelphia, and assailing Dr. Rush the next year with all his energy and venom, he may have caricatured whatever occurred at Caldwell's doctoration, in the Gazette which he began about this time. But conjectures though plausible are vain and researches even if successful would prove nothing; for C. says that the part published was never, as far as he knows, "altogether correctly reported."

But Dr. Rush is the second hero of this romance. He was the chief of those adverse spirits of whom our author says,

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"But for them I should have been a professor in the University of Pennsylvania, occupying the chair then filled by Dr. Rush, and now by Dr. Chapman, but created by their predecessors, instead of being at present a professor in the University of Louisville, occupying a chair created by myself. Which of the two situations would have been most profitable to me, and which most toilsome and hazardous, are questions easily solved."

Now remember that he had set his magnanimous heart on this very chair when he first heard Rush's eloquence therein, p. 49; and that he never ceased to labour hard therefor, till he found that Dr. Chapman had, by "his superior tact," anticipated the favour of the trustees, p. 50. This failure of the long hope, was the chronic irritation that left him in a fretful state all the rest of his life; this no doubt was the subject of many of his waking and even his sleeping dreams, until these had jostled realities out of his mind and made him describe things as they never existed and relate speeches that were never made. Doctor Rush used to tell us of a gentleman who wisely forbad his children to relate their dreams, lest they might sometimes confound them with realities, and thus lose their regard for truth. *Sunt geminæ somni portæ*, says Virgil.

> "Two gates the silent house of Sleep adorn,
> Of polished ivory this, that of transparent horn;
> True visions thro' transparent horn arise
> Thro' polished ivory pass deluding lies."

Through this delusive gate came the *dream* related in p. 206–7–8. He tells circumstantially how he saved the lives of Mrs. Gen. Gurney and her daughter in the year 1794. The lady must have been almost frightened to death and the Doctor anhelitous with overpowering exertion, yet they both make eloquent speeches; nor could the author have made them better in his 80th year—nay, I presume they were just such as he would then have written, breathing gently at his table and in the maturity of his intellect. But true history coming through the gate "of transparent horn," relates that Gen. Gurney had no children by his first wife, that he married his second wife during the yellow fever of 1793, and that his oldest daughter, who the Doctor says was 9 or 10 years old when he saved her life in 1794, was not born until the latter end of the year 1795. Tis vain to say that some little *friend* was mistaken for a *daughter*, for Dr. C. says, that the acquaintance, thus begun, "ripened into friendship uninter-

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rupted to the end of Gen. Gurney's life." Two daughters of the General now live in Philadelphia of sound mind; they acknowledge the friendship of their father for Dr. C. but they never heard of any even the least saving effort made by the Doctor, till they read it in his Autobiography.

This *cacoethes* of speech-making is the greatest blemish in the workmanship of the book, for it gives to the whole mass the character of romance. It is an offence that is often met with among those troublesome mortals who are indecorously ambitious of eminence in conversation, without the ability of either instructing or amusing. Some men fond of relating their victories and their superlative shinings in company, will grieve you with the relation of a long harangue which you are certain was never made; and yet for civility's sake, you are obliged to listen to, assent to, and thus to applaud the flowing oration. We knew a lawyer who was thought to practice oratory on every company; an excellent lady was asked—had you a pleasant time last night; no, Mr. H. practised upon us, but we had no conversation.

During the yellow fever of 1797, our hero and Dr. Rush had a reconciliation, the cause of which does honour to them both. Rush was strenuously pursuing his treatment of the fever, in which he was followed by Barton, Physick, Caldwell, Griffitts, Currie, and others; but the persecution of the opposing party with Porcupine at their head, fell upon Rush alone, as says Horace, "thunderbolts strike the tops of the mountains." Dr. C. says p. 278,

"For several reasons, but principally for *two*, this state of things soon became to me intolerable. In the first place, Dr. Rush, as I believed then, and still believe, was contending for the right, in both practice and theory; by which latter term I allude to his doctrine of domestic origin. To defeat and injure him, therefore, would be tantamount to an injury to the community at large. And in the second place, let the issue be what it might, and the principle involved be what it might, to witness a contest of dozens against one, without some sort of interference in behalf of the oppressed, was an act cold-hearted, illiberal, and unmanly, from which my nature recoiled, with sentiments akin to contempt and abhorrence. True, Dr. Rush was not my friend. But no matter for that. In the present case he was much more. He was the friend of truth, and of his race, and deserved to be supported by every man of honor and virtue. Besides, I had long since determined never to allow private feeling to impede the discharge of public duty."

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Dr. C. then wrote anonymously in defence of the new doctrines and, p. 279 "drew the current of the daily slanders through the press, very much from Dr. R. thus giving him a little respite from the galling annoyance he experienced." Rush heard that C. was seized with the fever and discovered at the same time that he was the author of the defensive papers. He sent immediately to Caldwell and requested that himself and Dr. Physick might be admitted as visitors. They were kindly received and they attended him through his disease. C. says, p. 281, "R. exercised towards me the whole resources of his amenity and courtesy which were almost boundless, for he was among the most polished men of that polished age." Now even here, most wonderful to tell—these great men were not permitted to retire for consultation till their patient, very ill of yellow fever, had made them a long speech to convince them, as he says, that he knew something of his own case and that he had no fear of death!

Having gone through the epidemic of 1797, he gratulated himself in these words, p. 283—

"I had extended materially the sphere of my business, improved my reputation as a writer and practitioner, and, as far as appearances were concerned, and with as much reality as I ever expected, had smothered my misunderstanding with Dr. Rush—and I had done so in a manner triumphantly in my favor."

He now pursued his studies with his usual vigor, determined to leave no stone unmoved in preparing himself for a professorship, for a man he says, p. 287,

"Destitute of medical literature and science, and undisciplined in composition, reading, and speaking, seated in the chair of a medical professor, constitutes one of the fittest of 'objects for scorn to point her slow unmoving finger at,' and for all well qualified and high minded teachers to treat with contempt."

He therefore spends ten more laborious years in fitting himself for public instruction. During this time he translated *Senac* at the request of Dr. Rush, to whom he dedicated it in the most affectionate language and sentiment. But the dedication was made to R. without his knowledge, because his modesty was so enormous that he would never have permitted it; and it was made to him says Dr. C., because he was among the ablest judges in the whole world of the merits of the work.

"But I am actuated, also, by other considerations, which though

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more private and personal in their nature, are not with me less powerful in their operation. These considerations, were they to be even rejected by the judgment, would appeal to the feelings, and though repulsed from the head, could never fail to gain admission to the heart.

During an intercourse of some continuance, particularly during the term of my medical pupilage, and the first years of my practice as a physician, I received from you many acts of attention and courtesy, which as a young man and a stranger in the place, impressed me deeply at the time, and have still continued to be sources of grateful recollection. Out of these civilities, obligations naturally arose on my part, which our relative situation has not yet allowed me to cancel. It is even possible, that an opportunity of cancelling them may never occur. I must, therefore, beg your acceptance of this dedication as some acknowledgement of them, accompanied by my sincere wishes for a long continuance of your health, happiness, and *useful labors*. For however grateful, in the evening of life, the *otium in secessu honestum* may be to a philosophical and contemplative mind, I am unable to wish you such a retirement. It is enough that we should be deprived of your labors and services when you shall have gone to enjoy the reward of them in a better world. CH. CALDWELL."

Truly this would seem to show that the old sores were quite healed, and even that the original cuts had not been so deep and ghastly, as they are now represented. This affectionate dedication of Senac is dated Oct. 1805, and only 15 months afterwards, he published an excellent history of the yellow fever of 1805 wherein he applauds the practice he learned from his old Master, but does not once name him, however renowned in these epidemics. It was during these 15 months we presume, that the conversation took place related in p. 289 which we shall quote entire. Speaking of his preparation for a professorship, he says—

"It was uninterruptedly and laboriously continued during the space of ten years. True, within that space I delivered to pupils, by invitation, many addresses on medical subjects. But ten entire years had elapsed, before I ventured to call together a class to listen to my lectures for the purpose of instruction.'

'Though, in my Philadelphia lectures, I broached many sentiments, and presented and defended many views in direct opposition to those entertained and inculcated by Dr. Rush; yet, in all cases, I spoke at first of his opinions so courteously and respectfully, and of himself so complimentarily, that it was hardly possible for him to except to anything I uttered. Yet did I plainly perceive that he was not satisfied with the self-resource doctrines I irrespectively taught, and the independent course I pursued in relation to them. Nor could I fail to be made sensible that our intercourse became less and less cordial. Still, however, did the doctor occasionally refer to the subject in such a way, as to present to

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me the prospect that, in case of certain contingencies, the doors of the Medical School of Philadelphia would be opened for my admission to a professorship. But even on that subject, his encouragement grew fainter as time and changes went on; until he at length gave me to understand his opinion, if not his wish to be, that, except on certain conditions performed on my part, the doors of the school would be certainly closed against me; and with those conditions he well knew I would never comply.'

'Pray, sir,' said I, 'have the goodness to inform me whence has arisen this sudden change?' He replied that the change was not very sudden, but had been in progress for some time. 'Wherefore, then,' I rejoined, in an excited tone and manner, somewhat resembling those of *demand*, 'have I not been apprised of it at an earlier period?' 'Why, sir,' said he, 'to be the announcer of unpleasant news is an unpleasant employment.' 'It is, or surely ought to be,' I promptly replied, 'less unpleasant, and more friendly and useful, to communicate the news of things being in jeopardy, but still perhaps remediable, than of their being lost and irremediable.'

'But whether the change referred to be of recent or of long standing, it has a cause; and of that I hold myself entitled to be informed.' 'Though I am not,' said he, 'in the habit of divulging the existence of secret and alienated feelings, it is perhaps my duty, in the present case, so far to do so, as to tell you, that some members of the Faculty are not friendly to you, and are unwilling to speak well of you to the Board of Trustees.'

'Unwilling to speak well of me! Do any member or members of the Faculty dare to speak ill of me to either the Board of Trustees, or any other persons? If so, I have a right to their names.' 'Of your talents, attainments, and powers in lecturing and instructing,' he replied, 'they speak in the most respectful and flattering terms. But they are reluctant to recommend you to the Board of Trustees, in the light of a professor.'

'It is time enough for them, sir, to refuse their recommendation, when it is wanted. I have never either asked for it, or coveted it. Nor do I set on it the value of 'a pin's point.' And you are authorized, if you please, to tell them so, and say that you do it at my request. The only recommendation I rely on, or would accept, 'is that of my fitness to discharge the duties of the station. And that 'fitness' not a member of the Faculty ever has denied, or will deny, in either my own presence, or in that of my friends. And you may deem it even superfluous in me to add, that to yourself the truth of this is thoroughly known, and by yourself has been publicly and repeatedly acknowledged. And to you is it further known that, had I, like two or three other persons, whom it would be superfluous in me to name, degraded myself and flattered them, by paying court to certain members of the Faculty, who need not be designated to you, it would have been very easy for me to conciliate their patronage and favor, and procure their recommendation to any appointment I might solicit or desire. For the only reason they have to decline

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speaking *well* of me to the Board of Trustees, is because I have never condescended to speak flatteringly of them.

'But this conference is no better than a waste of words. I shall therefore close it by remarking that, though you have pronounced the Philadelphia Faculty barred against my entrance, either it or some other will yet be open to me, and I shall be invited and solicited to enter it. For, notwithstanding the hostility towards me, to which you have alluded, should my life and health be spared, I will, before the lapse of many years, be the occupant of a chair in a school of medicine as honorable as your own.' This was the last conference I ever held with Dr. Rush. And though, for some time afterward, we civilly saluted when we met, we at length discontinued even that mark of regard, and passed each other without recognition."

His hopes, as we learn from his book, were that R. would give him the *Institutes*, confining himself to the *Practice;* and the book proves that the aspiring man was rather more obtrusive and demanding than modesty permits. Rush, moreover, could not be expected to bring forward a man who had been lecturing against his doctrines. True this very thing was done many years afterwards and in that very chair; but this was in circumstances so different, that the two cases cannot be brought into parallel.

It was in the year 1809, we believe, that C. began to interrupt Rush's lectures. He rented a room in Market st. above 9th and advertised the students of his lectures by placing his servant at the gate of the University with bills. His first two or three lectures were pretty well frequented, but the number rapidly declined. I was persuaded one luckless evening to hear him in the 2nd st. market house whither he had removed; and had I not gone, it would have been another case of the *Dearly beloved Roger, you and I*, for William W. Anderson of Maryland and myself were the whole class—*nos duo turba sumus.* We were told that timely notice would be given of the next lecture, but none reached us till November of the next year, when something like the same farce was played and with the same final success. Whether anything was attempted in subsequent years, we do not remember.

He had now no hope from the University during Rush's life, and therefore he had the less pain in following his old master to the grave in Ap. 1813. On this occasion, he seems to have seen things, not as they were but as he wished them to be, for he tries to persuade his readers that the death of the Old Man, as

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the Greeks used to say, made very little sensation in the city or any other place. This is another proof that his dreams came out at the "ivory gate," for it is in direct opposition to all that we have ever heard, not having been present ourselves. "No member of the Profession of any standing either volunteered his services or could even be induced to pronounce on him a eulogy," p. 314. This language conveys a falsehood—that one or more were desired to do this and spurned the office. But the truth is, that no physician in Phila. at that time could have felt himself adequate to the task, except Barton, Caldwell, and Chapman, who were all personal enemies of the defunct, and therefore, and for other rersons, could not have been agreeable to the bereaved family. But there was "no flood of tears from the eyes of the citizens generally or even those of his own immediate neighborhood," p. 313. Truly many a man has deep sorrow at his heart who neither sheds tears nor makes a wry face. This melting Doctor seems to require too much of us common mortals; he looked for streaming eyes, having said that Senac was followed to the grave "by thousands in tears."* Well may we exclaim with the Satirist—*Mirandum est unde ille oculis suffecerit humor.*

But Dr. C. is not always consistent with himself. In his life of Rush *in Delaplaine's Repos.* he says—"since the death of Washington, no man perhaps in America, was better known, more sincerely beloved, or held in higher esteem. Even in England the *tear* of sensibility descended on his ashes and the voice of eulogy was raised to his memory." * * * * "For nearly 3000 years past, but few physicians equal in greatness have appeared in the world; nor is it probable that the number will be materially increased for ages to come." *Si sic omnia dixisset,* for in the book before us, he labors hard to depreciate the medical, philosophical, and social character of his master. But all who knew the sterling worth of this great and good man, will look upon him, though willing to be called a *descendant of Julius Cæsar,* as the ass kicking the dead lion.

He says p. 314, that all Rush's theories died with him and that some of them he even survived. This is not true, as every

* Caldwell's Preface to Senac.

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one knows; but true it certainly is, that at his death, they fell "on evil days and evil tongues." Rush was succeeded by Barton who had been his sworn personal enemy for many years and had opposed him in everything except his doctrines and treatment of yellow fever. This man now published an edition of Cullen with some notes and made it his text book; he revived Nosology, and sought every means of depressing his great predecessor.

This most unhappy man sank to rest very quickly under his new labors, when forthwith came Chapman, another bitter personal enemy to Rush. He labored assiduously to undermine the reputation of his great Preceptor; and in this work, he was cheerfully assisted by Caldwell who secretly aided him in preparing his lectures. Barton had introduced Cullen's *F. Lines*, and therefore Chapman now prevailed on Caldwell to publish a new edition of this work with voluminous notes. This book, our new professor used for twelve years.

Meanwhile the two Friends patched up a lame and stumbling theory which they dignified by the word *Sympathetic.* In this theory, says Caldwell in his letter to Chapman, *Ph. Med. and Phy. Jour. vol. iii.* 303, "it is certainly true that as teachers and disputants, we have for many years held our station in the first rank of battle." Lame as this doctrine was, it stalked abroad, no doubt like Sir John Mandeville's nation of Ethiopians who had but one leg; for we take it for granted, that Sir John exaggerates when he says, they could run faster with only one leg than other nations can run with two.

Meanwhile the Lectures of Rush were not published by his family, but retained to be delivered annually by his son, with such addition and subtraction, perhaps, as he might think proper; by which suppression, the long, and careful, and anxious experience of this profound medical philosopher has been lost to the world and to his own fame.

That Dr. C. was a man of superior natural mind made powerful and commanding by unwearied labor, there cannot be a question. His early education, he acquired on hard terms and not without great and meritorious exertions. Being thrown early in life on the resources of his own mind, his early learning was principally that which use required, hence he became a translator from Latin

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and French; but we do not see or hear that he made much progress in Greek and other academical studies, except in one of his conversations with Dr. Rush. In his *Reply to Haygarth*, which he seems willing to suppose sent the Doctor "where the wicked cease from troubling," he makes a host of blunders in the use of a *regular* Greek adjective. Ridiculing him for the phrase "*gratefully thankful*," Caldwell exclaims—"in plain English *thankfully thankful!* How brilliant is the commencement of the 19th century! a new degree of comparison ushered into the world to supply the deficiency of the former three! The French have only their *reconnaissant, plus reconnaissant, bien reconnaissant;* the Romans only their *gratus, gratior, gratissimus;* the Greeks only their *eucharis, euchariôn, eucharistos;* but thanks be to the genius of Haygarth, we have our *thankful, more thankful, most thankful*, and *thankfully thankful.*" This, it must be confessed, is rather petulant than wise; ignorance, it certainly is. Eucharis is not compared as he has done it, but regularly in *teros* and *tatos*. There is no *euchariôn* in the language nor *eucharistos* in the superlative degree. Finding *kalos, kalliôn, kallistos* and *kakos, kakiôn, kakistos*, he compared *eucharis* in the same way! Had Dr. Haygarth replied, he might have shamed him for his impudent ignorance.

In early life he appears to have been an imitator of Johnson and Gibbon, as seen in his dedication and version of Blumenbach; even in later life, his early grandiloquence sometimes escaped him. He says of Rush, as above quoted—"even in Europe, the tear of sensibility descended on his ashes and the voice of eulogy was raised to his memory." Here he looked to the roundness of his period rather than to the sense, for eulogies naturally rise and tears fall—though not from Europe on our *ashes* in America. When Editor of the Port Folio, he requested his contributors to send him "something equally remote from intangible levity and insupportable onerosity." But this *onerous* and *insupportable* diction is not often seen in his later works; these afford a strong masculine style, natural and perspicuous, free from affectation, and not disgraced by words of his own coining.

His whole character, like his manner of writing, was formed by intense labor and care; whatever he did, he always tried to do in the best manner, hence he was in early life, like his early

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style, rather an unnatural man, the result of perpetual affectation. Thus I can remember telling a lady about the year 1807, that if he scraped his feet at the door, he would try to do it with the utmost grace and dignity. This opinion of 48 years ago, accords with one of his three rules of conduct adopted by him when yet a boy—"whatever you do, do as well as you can." p. 443. But when he visited Philadelphia, I believe in 1839, this extreme politeness seemed to have worn itself into a more natural grace and easy dignity.

One of the greatest faults of his life is, that he wrote on too many subjects, and of this he was finally convinced. Had he devoted his mind to his profession, he might have left some lasting monument to his name and country; but the dilution of his powerful intellect has been such, that it may be a question, whether any of its numerous progeny is strong enough to survive.

If we consider his entire history, he must be looked upon as an extraordinary man. He was not brilliant but learned; his acquisitive faculties were strong, nor in ratiocination was he at all defective; but imagination was wanting, without which no man can ever become truly great. He deserves much praise for his industry and his uninterrupted temperance; and yet even these virtues may be suspected of selfishness, for his ambition was so inordinate, that he seems to have had the *sublimi feriam vertice sidera* of Horace perpetually in his mind.

Had he not ambitiously overstrained some of his virtues, he would have been a more agreeable, popular, and useful man; had he been less obtrusive, fame would have followed him as it was said to follow the modest Cato; and had he been decently respectful to his old master, to whom by his own confession he was greatly indebted, he would have been the successor of Rush and have proved a lasting honor to American Medicine: but *Omnibus in terris quæ sunt &c.*

> "Look round the habitable world—how few
> Know their own good, or knowing it pursue."

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A treatise on the Practice of Medicine. By GEORGE B. WOOD, M.D. Professor of the Theory and Practice of Medicine in the University of Pennsylvania; President of the College of Physicians of Philadelphia, etc. Fourth edition. Philada.: Lippincott, Grambo & Co. 1855.

When the above publication first appeared in 1847, many excellent treatises on the practice of medicine were in use throughout our country. Notwithstanding these, it took its position at once as a standard work of the very first order. The distinguished reputation of its author, as one of the writers of the United States Dispensatory, a work which is universally acknowledged to have no equal of its kind in any language, as well as the fact that he was extensively and favorably known as a teacher in the first school of our country, contributed somewhat, undoubtedly, to this brilliant success. The exhaustion of three large editions in eight years is a sufficient and convincing proof, however, if any such were needed, that the high character at once accorded it by the profession did not owe much to such extrinsic causes, but was due to its own inherent and indisputable merit. A sound and well disciplined understanding brought to bear upon subjects with which the writer was familiar, both from his own personal observation and experience, and from intimate acquaintance with and study of the writings of others, was evidenced throughout its pages. At this late date, commendation of it, however, is useless. We shall only say, therefore, that as a clear, exact and truthful representation of the science of which it treats, we think it will bear a most favorable comparison with any of the systematic treatises that have appeared in our language.

The progress of medical science at the present time is so rapid, the sources from which the new facts and observations of writers must be gathered are so numerous, that frequent revisions and alterations are required to be made in every standard treatise, if its author wishes to keep apace with the ever flowing current. To make these necessary changes, demands a great deal of labor and much discrimination. A vast amount of chaff must be winnowed before the bright grains of truth can be gathered. The present edition bears evidence throughout its pages that these duties have been well executed by our author. Besides the

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numerous alterations in the text, and the many additions, principally in the form of notes, which are given us, we notice that some of the sections have been considerably enlarged and modified, as, for instance, the one which treats of "Disease of the fluids." We need hardly say, that the result has materially enhanced the value of the work.

Upon the subject of peritonitis from intestinal perforation, occurring during the course of typhoid fever, we observe a note in the present edition, (see p. 849,) which states that the author had successfully treated another case of this grave accident. "It must be confessed, however," he remarks, "that the value of such observations is diminished by the publication of certain cases by Dr. Thirial, which go to prove that violent and fatal peritonitis, which might readily be mistaken for peritonitis from perforation, occasionally occurs in enteric fever without any discoverable opening in the bowel." (See Med. Examiner, N. S. xi. 120.) As the subject is one which may prove interesting to some of our readers, we shall make a few comments upon it.

Though perforation is occasionally mentioned by some of the early writers, M. Louis may be said to be the first who drew the especial attention of pathologists to its frequent occurrence in typhoid fever. In his *Recherches Anatomiques, Pathologiques Ete de Fievre Typhoïde*, he states that he had found it to exist in eight cases out of fifty-five examined by him, or in nearly one seventh of the fatal cases. Ordinarily there is but one perforation, which generally takes place in the neighborhood of the cœcum. In five of these eight cases, the previous fever was either slight or latent. In one instance, it occurred on the 12th day of the fever; in two on the 18th; in the other four, between the 22d and 42d day. Severe symptoms marked its occurrence in five cases. In the other three, it was latent, so to speak, although death took place quite as rapidly as in the others. The symptoms were sharp and tearing pains suddenly experienced in the abdomen, rapidly followed by change of expression, nausea and vomiting, rigors and all the characteristic marks of an intense acute peritonitis. "We can consequently," he says, "diagnosticate that a perforation exists, whenever the following characteristic symptoms occur. If in the course of a typhoid

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fever, grave or slight, or even where unexpectedly, the disease having been latent until such occurrence, severe pains in the abdomen occur suddenly, which are exasperated by pressure, accompanied with alteration of the features, and, sooner or later, by nausea and vomiting, we may announce that there exists a perforation of the intestine." Each of the above symptoms, he remarks, however, must be present to enable us to form a positive opinion. Not only must the pain be violent, with marked alteration of the physiognomy, it must also be increased by pressure, and sooner or later extend over the whole abdomen. Even though great diminution of the pain should occur, we should still adhere to our previous diagnosis, should all the other symptoms still persist.

Our knowledge of the symptoms characterising peritonitis from perforation, has received no further increase since the date of the above generalization. The formula may still be considered good, though as we shall hereafter show, there are occasional exceptions to the universal adoption of it as a law.

The prognosis of perforation, it is almost needless to observe, is most disheartening. In fact, until within a few years, its occurrence was considered as invariably fatal. Dr. Stokes, in an article contributed to the Dublin Medical and Chemical Journal, was the first to cast a doubt upon this. After showing the inapplicability of the previous methods of treating it by blood-letting, mercury, &c., he observes that the two great indications are to support the strength of the patient so as to gain time, and to diminish, as far as possible, the peristaltic action of the intestines. If this latter object can be attained, not only might the further ingress of fœcal matter into the peritoneal sac be prevented, but what is equally important, the organizable lymph effused would be allowed to perform its office undisturbed. To attain these importants ends, he proposed the use of opium in large doses, and detailed two cases in which "decided evidence of the utility of this mode of treatment was obtained. In the first, in which the symptoms of perforation had existed for two days, and the patient was in almost complete collapse, the use of sixty drops of black drop in the twenty-four hours was followed by most singular improvement." In forty-eight hours, "*every symptom of abdominal inflammation had subsided;* the belly was natural and the

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pulse good. At this period the mildest possible laxative was exhibited, which produced four evacuations, followed by an immediate return of the symptoms of peritonitis, under which the patient rapidly sank. On dissection, we found universal peritonitis, but the intestines were everywhere agglutinated together, except in the left iliac fossa. The perforation existed in the cœcum and was small; and the mucous membrane of the ileum and color was but little affected."—(*Cyclopedia of Prac. Med. Art. Peritonitis*, p. 528, Am. edition.)

"In the next case, the disease was of three days standing, and it supervened suddenly from a hypercatharsis, produced by an over dose of Glauber's salts. The patient was apparently in the last stage when the opium treatment was commenced." Under its use the symptoms soon improved, and at the end of ten days, after taking 105 grains of opium, convalescence was completely established.

Since the period of publication of Dr. Stokes' article, several cases of supposed cures of perforation have been published. In all of them, opium or some of its preparations, was freely administered. Two of these presumed cures, both of which are referred to in the present edition, have been published by Dr. Wood. The first took place in 1850, the particulars of which, as stated to the College of Physicians of Philadelphia, may be seen in its Transactions, vol. 1, p. 32, N. S. The second one, which occurred in the latter part of the year 1852, though of a less certain character than the first, presented features which rendered it "highly probable that the inflammation of the peritoneum resulted from perforation of the bowels."—*Ibid*, vol. 1, p. 418, N. S.)

Such was the belief entertained by the profession, regarding the possible cure of this affection, when Dr. Thirial published an article in *L'Union Médicale*, Nos. 83, 84 et 85; 1853, in which he detailed four cases of peritonitis which occurred in the hospital *de la Charité*, during the service of M. Rayer. One of these, was admitted for favus; two for typhoid fever and one for disease of the heart, which was followed, three weeks after admission, by an attack of typhoid fever. In the three latter cases, the patients were severally convalescing from their diseases when symptoms of acute peritonitis, with rapid sinking of the vital

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powers, attributed in each case by the attending physician to the occurrence of perforation, suddenly supervened. Death rapidly followed in all of them. The autopsies, which were made with the most scrupulous care, were conducted in the following manner. The intestines were detached and then filled water, the precaution being first taken of tying a ligature around the lower portion. No solution of continuity being discovered in them by this method, they were then laid open and minutely examined. Still no perforation could be found. Vivid injection of the whole peritoneum, soft and recent plastic lymph, serum, false membranes, in fine, all the pathological evidences of acute peritonitis were alone revealed by the examination. The diagnosis of perforation was found incorrect in every instance.

In the present number, we record two additional communications by Dr. Wood upon the same subject. To these, and especially to his remarks on the second case, we invite the attention of our readers. Difficult as it must be to arrive at a positive determination upon the point at issue, viz., whether a perforation has *ever* been cured, we think our readers will agree with us in considering it as very improbable, to say the least. When we reflect that acute peritonitis, even in a previously healthy person, is a very dangerous affection—that our prognosis would naturally be still more unfavorable, should it suddenly occur either during or immediately after, an attack of typoid fever; its conjunction under such circumstances, with such a fearful accident as perforation, must, *a fortiori*, leave hardly a doubt of the result. Add to these considerations, that perforation has no symptoms, *per se*, separate from those which belong to acute peritonitis, by which we can detect its presence—that it has been fairly proved, also, that peritonitis does occasionally occur, both during and after typhoid fever, with no perforation, and we think it will be difficult to evade the conclusion that in every instance where recovery has been supposed to have taken place, uncomplicated peritonitis has been the disease under treatment.

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Essays on Infant Therapeutics: to which are added observations on Ergot; history of the origin of the use of Mercury in Inflammatory complaints, &c. By JOHN B. BECK, M. D., Professor of Materia Medica and Medical Jurisprudence in the College of Physicians and Surgeons of the University of the State of New York, &c. Second Edition, enlarged and revised. New York, S. S. and W. Wood, 1855.

The above is an able and valuable work, abounding in much useful information, from which all may reap benefit, but more especially adapted to the use of the young practitioner. The research, sound judgment, and good sense, for which its lamented author was so highly distinguished, are most effectively portrayed in it. The practical nature of most of the essays, treating as they do of the evils resulting from the excessive use of remedies daily employed by physicians, claims for them particular attention.

THE MEDICAL EXAMINER.

PHILADELPHIA, APRIL, 1855.

AMERICAN MEDICAL ASSOCIATION.

The eighth annual session of the American Medical Association will shortly be held in this city. We sincerely hope that the assembled delegation will prove a numerous one, and that every part of the Union will be represented. We can assure them, whatever be their number, that they will be heartily welcomed, and that no efforts will be spared on the part of Philadelphia, to render their short sojourn in it as agreeable to them as it is in the power of its physicians to make it.

As the great centre of medical education, from which so many of the wise and good of our profession have gone forth to their distant fields of duty, Philadelphia must ever be regarded with interest by the medical corps throughout the country. The spot in which the first seeds were sown, from which so numerous a band is now reaping the fruits, in an honorable, if not lucrative harvest, cannot but have a warm place in their affections. The coming occasion will afford so favorable an op-

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portunity to its *alumni* of once more revisiting the *alma mater* of their youth, that very many of them, we trust, will avail themselves of it.

The vast interests which are embarked in the Association—the magnitude of the stake for which it was created—the full organization and complete reform of the profession—are considerations unnecessary here to dwell upon. We shall only observe that its influence in elevating the medical character and intelligence of the country, and in cementing those bonds which should unite us as one body, is already widely felt. Nor can we permit ourselves to doubt for a moment, should it still continue to be conducted in the proper spirit, that all its objects will be ultimately secured to the profession.

Rejoicing in the opportunity once more afforded us of reciprocating the warm and generous courtesies, so frequently extended to the profession of our city, we sincerely trust that the anticipated meeting will prove, in every respect, a satisfactory one.

MEDICAL NEWS.

We have been informed that Dr. G. W. Norris and Dr. Wm. Pepper have been elected from the Pennsylvania Hospital as delegates to the American Medical Association.

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At a meeting of the Medical Board of the Philadelphia Hospital, held Feb. 24th, 1855, Drs. HENRY H. SMITH and J. L. LUDLOW were chosen delegates to the American Medical Association, at their next Annual Meeting in Philadelphia.

J. L. LUDLOW,
Secretary of Medical Board of Pa. Hospital.

—

MR. EDITOR,—Allow me, through the columns of the Examiner, to call the attention of the profession to the "Obstetrical Supporter," as modified and improved by W. S. Daniels, of New York. This light and simple apparatus is designed to make pressure upon the back of the parturient female, to furnish a support for her hands during the pains, and to keep her body and limbs in a proper position during the labor. It consists of a broad strap passing across the back and around the hips, with a pad for the back, and to which are attached at either end straps extending to the knees and feet. When properly adjusted, it gives that firm support so comfortable to the parturient female, furnishes something upon which to pull with her hands during the pains, and keeps her body and limbs in the position most favorable for the management of the case. The peculiarity of this instrument is, that as the female pulls upon the hand-straps during the pains, she at the same time increases the pressure upon the back, flexes the lower extremities,

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draws the trunk forward, and increases the contractile power of the abdominal muscles.

I have not yet had an opportunity of using this supporter, but from a careful examination of it, I consider it admirably adapted to fulfil the indications for which it was designed. JOHN WILTBANK, M. D.

Having examined the apparatus described by Dr. W., I concur in his opinion of its adaptation to favor parturition, especially during its latter stage. THEOPHILUS E. BEESLEY, M. D.

The above instrument may be seen at Mr. Gemrig's, in Eighth below Chestnut St., East side.

AMERICAN MEDICAL ASSOCIATION.—The Eighth Annual Meeting of the American Medical Association will be held in the city of Philadelphia, on Tuesday, May 1, 1855.

The Secretaries of all Societies and other bodies entitled to representation in the Association, are requested to forward to the undersigned correct lists of their respective delegations *as soon as they may be appointed;* and it is *earnestly* desired by the Committee of Arrangements that the appointments be made at as early a period as possible.

The following are extracts from Article 2d of the Constitution:—

"Each local Society shall have the privilege of sending one delegate for every ten of its regular resident members, and one for every additional fraction of more than half of this number. The faculty of every regularly constituted medical college, or chartered school of medicine, shall have the privilege of sending two delegates. The professional staff of every chartered or municipal hospital containing a hundred inmates or more, shall have the privilege of sending two delegates, and every other permanently organized medical institution of good standing shall have the privilege of sending one delegate.

"Delegates representing the medical staff of the United States army and navy shall be appointed by the Chiefs of Army and Navy Medical Bureaux.

"The number of delegates so appointed shall be four from the army medical officers, and an equal number from the navy medical officers."

The latter clause, in relation to delegates from the army and navy, was adopted as an amendment to the constitution at the meeting of the Association, held in New York, in May, 1853.

FRANCIS WEST, M. D.,
One of the Secretaries, 352 Chestnut St., Philadelphia.

The medical press of the United States is respectfully requested to copy the above.

[We sincerely hope that the above request will be attended to by the Secretaries of Societies, &c. We are informed that very few lists have, as yet, been forwarded.—ED.]

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MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.—The Annual Session of the Society will be held in Hollidaysburg on the last Wednesday (30th) of May, at 10 o'clock in the forenoon.

The Secretaries of the several County Societies will please forward the lists of delegates to either of the Secretaries.

D. FRANCIS CONDIE, Philadelphia,
HENRY CARPENTER, Lancaster,
Secretaries.

RECORD OF MEDICAL SCIENCE.

MEETING OF THE COLLEGE OF PHYSICIANS.

Curability of Intestinal Perforation in Typhoid Fever.—Dr. Wood made the following remarks on this subject:—

The Fellows of the College may perhaps remember that, on two occasions, I have called their attention to cases of recovery from peritonitis in typhoid fever, occurring under circumstances which rendered the supposition highly probable that perforation of the bowels had taken place. A notice of the two cases was published in the *Transactions* of the College, to which I would refer. (See *Transactions*, N.S., vol. i. pages 32 and 418.) In relation to one of these cases, I have scarcely entertained a doubt as to the existence of perforation; and in the other, it appeared to me in the highest degree probable.

Subsequently, I have seen an account of two fatal cases of typhoid fever with sudden peritonitis, which occurred in the Charity Hospital Paris, and in which, upon the most careful examination after death, no perforation could be discovered. A notice of these cases may be seen in the *Medical Examiner* (N.S., x. 120.) It cannot be denied that they tend to throw some doubt upon the reality of perforation, in the few cases which have been published of recovery from peritonitis in typhoid fever, supposed to have had this origin. But I have recently had under my care, in the Pennsylvania Hospital, a case of typhoid fever which, I think, affords satisfactory evidence of at least the possibility of recovery under the circumstances referred to; that is, when peritonitis has occurred in consequence of perforation of the bowels in that disease. To offer to the College a brief sketch of this case is the object of the present communication.

T. C., a young man, about 23 years old, was admitted into the Hospital on the 21st of November. His friends stated that, three weeks before his admission, he had been attacked with a chill, and had been unwell ever since. At the time of his entrance, he had all the characteristic symptoms of typhoid fever in its advanced stage; among them, a pulse of 128 in the minute and very feeble, a perfectly dry tongue, muttering delirium, diarrhœa, and tympanitic abdomen with the rose-

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colored spots and tenderness on pressure. There was also cough, with embarrassed respiration and evidences of pulmonary congestion. He was put on the use of oil of turpentine, and small doses of the blue mass, opium, and ipecacuanha, with emollient poultices to his abdomen, dry cups to his chest, and wine-whey, soup, and milk, to support his strength. On the 24th, his tongue had become moist, his abdomen less tumid and tender, and his pulse reduced to 115. So far as the fever was concerned, he seemed on the way to convalescence; but the pectoral symptoms had increased, and pneumonia was decidedly developed. The remedies were continued, with the addition of a large blister to his chest. But the pulmonic affection rapidly gained ground; the respiration was very much oppressed; the skin became cold and clammy, and the pulse extremely feeble; and life was sustained only by the administration of the most active stimulants. He died on the first of December, obviously of the disease of his lungs, the abdominal symptoms having almost entirely disappeared.

On examination after death, the upper half of the right lung was found in a complete state of gray hepatization, being everywhere infiltrated with pus, and so soft that the handle of the knife could be passed through it in all directions with very little resistance. The remainder of the right lung, and most of the left, were more or less congested. There could be no doubt as to the cause of his death. I was not present at the examination of the body; and, though the lungs and intestines were kept for my inspection, I had no opportunity of seeing the bowels in *situ*. Dr. Forbes, however, one of the resident physicians of the hospital, who made the autopsy, was kind enough to present me with the following account, in substance, of what he discovered on opening the abdomen.

Evidences of previously existing peritonitis were exhibited in small portions of semi-organized coagulable lymph adhering to the bowel and abdominal parietes, chiefly in the right iliac region, where, at one spot, it served to agglutinate the small intestine to the anterior wall of the abdomen. There was little or no liquid in the cavity, and no fecal matter. The adhesion was carefully separated by the thumb-nail, when a portion of the contents of the bowel escaped into the abdomen at the point of separation. On further examination, a perforation of the intestine was found in the middle of an ulcer, which appeared to be healing at its edges, as were several other ulcerated surfaces.

When exhibited to myself, the intestines were, as already stated, separated from the body, and had been laid open. A considerable number of healing ulcerated surfaces were visible along the ileum, in the situation of the aggregated glands; and, in the middle of one of these ulcers, near the ileo-cœcal valve, was an oval opening, about half an inch in length, quite through the bowel, with a smooth, rounded edge, which had certainly not been produced either by tearing or by the knife. There could not be the least doubt that it was a perforating ulcer. Near its edge, on the peritoneal surface of the bowel, was an adhering layer of semi-organized coagulable lymph, about an inch and a half in diame-

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ter, and here and there smaller patches, with some shreds adhering somewhat loosely to the bowel, at a little distance from the surface of adhesion, showing that the inflammation had extended some distance beyond the outer limits of that surface.

The College will, I think, agree with me in the conclusion that here had been a case of peritonitis from perforation, though of no great extent. Before any considerable portion of the intestinal fluid had escaped, adhesion had taken place around the opening by means of the exuded fibrin, and further mischief was thus prevented. The inflammation had probably begun to subside before the patient entered the house; and the 24th may be considered as the commencement of convalescence, so far as the peritonitis was concerned. I presume that the patient would have recovered, but for the supervention of pneumonia, which, in consequence probably of the general debility and bad state of the blood, passed very rapidly into the third stage, or that of suppurative disorganization.

If my interpretation of this case is correct, it proves pretty conclusively the possibility of a cure of peritonitis from perforation in typhoid fever, and supports, if it does not justify, the views taken of the pathology of the first two reported cases.—*Trans. of the College of Phys. of Philad. N. S. Vol. ii., No. 7.*

Meeting of the College, Feb. 7, 1855.

Peritonitis in Typhoid Fever, without Intestinal Perforation.—Dr. Wood made the following remarks on this subject:—

"Since my last communication to the College, a case has occurred to me at the Pennsylvania Hospital, which has some bearing on the question referred to in that communication; whether, namely, recovery has ever really taken place from peritonitis resulting from intestinal perforation in typhoid fever. What I stated at a former meeting of the College proves, I think, the possibility of such an event. The case of which I am about to give an outline shows, like those reported as having occurred in one of the hospitals at Paris, that we can never be positively certain, in any particular instance of peritonitis in the advanced stage of typhoid fever, that it originated in perforation.

"J——— B———, aged seventeen years, entered the hospital on the 2d of January. According to his own account, he had been three days ill; but the symptoms, which were those of typhoid fever in the middle of its course, evinced that he was in the second week of the disease. The tongue was quite dry, and the abdomen tympanitic; and the characteristic red spots, if not present at the time of his entrance, made their appearance very soon afterwards. Under the plan of treatment usually pursued in the hospital, including the use of oil of turpentine as an alterative to the ulcerated surfaces in the intestinal mucous membrane, he gradually amended; and on the 20th, I presented him to the class in attendance upon the clinical lectures as quite convalescent. On the 21st, however, he was suddenly seized with severe abdominal pains, tenderness on pressure, and great prostration; and it was evident that

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he was laboring under an attack of violent peritonitis. I had no doubt of the existence of perforation of the bowel, which I felt disposed to ascribe to an orange which he had surreptitiously eaten a few days previously, and of which, in order to conceal his violation of the rules of the ward, he had probably swallowed the seed and rind. With this conviction of the nature of the case, I directed the use of sulphate of morphia largely, according to the well-known plan of Drs. Graves and Stokes, with perfect rest, a blister over the abdomen, and, towards the close of the case, stimulants in order to support life. The system never fully reacted, and death took place on the 25th.

"Dr. Forbes, one of the resident physicians of the hospital, opened the body, and found a small quantity of turbid liquid in the abdominal cavity, with evidences of almost universal inflammation of the peritoneum; but, on the closest and most careful inspection, could discover no perforation of the bowel; nor was there the slightest fecal odor in the liquid effused. I had afterwards an opportunity of examining the whole of the intestines, though not *in situ*. The internal surface of the ileum presented several recent and well-defined *cicatrices, finely marking* the boundary of the patches of Peyer's glands, which I exhibited to the class as the finest example I had seen of this appearance; but there was not a single remaining ulcer visible, and I could find no sign of an opening. The peritoneal coating was covered with a very thin, glutinous, and translucent exudation of coagulable lymph, but with little redness. At no one point upon the surface were there more decided marks of inflammation than elsewhere, to indicate the possible seat of an opening. I was compelled, therefore, to regard the case as one of peritonitis without perforation. No discoverable cause of the affection existed; and I am inclined to rank this with those not very uncommon cases, in which peritonitis comes on without any special known cause, at the close of long-continued and exhausting affections, perhaps in consequence of depravation of the blood.

"This case is calculated to throw great doubt upon the existence of intestinal perforation in those instances of peritonitis, occurring in the advanced stage of typhoid fever, in which cures have been effected, of which I have been so fortunate as to witness two, in my own experience. They may have been, as in the case just related, nothing more than simple peritonitis without any opening whatever through the coats of the bowel. One important practical inference, however, may be deduced from them, viz: that the opiate treatment is the one best adapted to peritonitis occurring under these circumstances, whether with or without perforation; as several instances of recovery have taken place under that treatment, while I am not aware that one is on record effected under any other plan.—*Ibid.*

Novel Application of Electro-Chemistry to Therapeutics.—Chemistry is about to save from death, or a premature old age, those artisans whom the exercise of a cruel profession condemns to breathe metallic dust or vapors, who poison themselves daily for the sake of living, and acquire

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so many dreadful infirmities in the silvering of looking-glasses, the preparation of white lead, or working in the mines. Science comes to the help of the victims of industry or pleasure, and extracts from their bodies, atom by atom, the devastating metal that had fastened on their tissues, and weighed on the springs of life. These hopes are drawn from a memoir presented to the Academy of Sciences by M. Dumas, and the authors of which—MM. A. Poey, of the Havana, and Maurice Vergnès—will hold a distinguished rank among the benefactors of mankind, if experience confirms their assertions.

The invention consists in the application of electro-chemistry to the cure of the diseases we have mentioned; and surely, of all its marvellous uses, this would be the most admirable.

M. Poey takes an unfortunate patient, corroded by lead, mercury, gold, silver, or any other metal, and places him in a metallic bathing tub, isolated from the ground. The man sits down, his legs horizontally stretched out on a wooden bench, isolated from the tub, which is filled with water up to his neck. The water is slightly acidulated, to increase its conductibility; and the acid varies according to the cases. Nitric or hydrochloric acid is used for the extraction of mercury, silver, or gold; sulphuric acid for that of lead. This done, the negative pole of a pile is brought into contact with the sides of the bathing-tub, and the positive pole placed in the hands of the patient.

The work of purification is now in full activity; the electrical current precipitates itself through the body of the sufferer, penetrates into the depth of his bones, pursues in all the tissues every particle of metal, seizes it, restores its primitive form, and, chasing it out of the organism, deposits it on the sides of the tub, where it becomes apparent to the naked eye.

In this great discovery, chance or accident has played a part. One of the inventors—M. Maurice Vergnès—occupied himself with galvanic gilding and silvering. His hands being in continual contact with solutions of nitrate and cyanuret of gold and silver, got covered with ulcers in consequence of the introduction of metallic particles. One day he plunged the diseased organs into the electro-chemical bath, at the positive pole of the pile; and, after a quarter of an hour, to the great surprise of the beholders, a small plate of metal brought into contact with the negative pole covered itself with a thin coating of gold and silver, extracted from the hands of the operator, whence the most powerful remedies had not been able to eliminate them. This discovery was made on the 16th of April, 1852.

The authors employ a pile of thirty pair of plates, approaching, at the same time, that of Bunsen and of Grove, as coke and platina enter into its composition, by which its action is rendered more energetic. Each pair has a diameter of 40 millimetres, and is 217 millimetres high. The number of the pairs to be used at the beginning of the operation depends upon the temperament of the patient and the nature of the malady. Thus, a delicate and very nervous person is at first submitted to the action of ten or twelve pairs only, and every five minutes the number is increased. A person of a sanguine or lymphatic temperament is able to

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endure a greater number of elements. The same observation applies to the quantity of acid employed in the bath, less being required for a nervous than a lymphatic constitution.

The metallic atoms extracted from the body deposit themselves on the whole surface of the tub; but they are more abundant opposite to the part of the body where the metal was lodged. The size of the metallic spots varies considerably; some are microscopical; others have the dimensions of a pea; those of the size of a pin's head are very common. "I have seen," says M. Poey, "after the bath of a person who complained of pains in the arms, from having taken mercury, the contour of the arm perfectly drawn upon the metallic plate by the deposit of metallic atoms that without doubt proceeded from the suffering member."

We shall terminate our article with an experiment made before the members of the Faculty of Medicine of the Havana.

A patient had undergone during a whole week an external mercurial treatment (frictions, with mercurial ointment.) He had then taken several lukewarm baths, and it could not be supposed that any mercury still remained attached to the skin.

He was put into a water bath mixed with muriatic acid. After having remained in it for five minutes, some of the water was taken out, and afterwards analyzed by M. Baraceca, who found no traces of mercury in it.

The circuit was then closed; and, after the electric current had acted for about an hour, a new sample of the water was taken. Mixed with an alkaline sulphuret, the water became black; and a piece of copper having been dipped into it, gave sure signs of the existence of a small quantity of mercury. Thus the water of the bath now held mercury in solution.

During the experiment, a perfectly clean piece of copper had been placed at the negative pole. When it was taken out of the water, towards the end of the operation, its yellow-greenish color not only testified an oxidation in which mercury had taken a part, but small white spots were scattered over the surface, one of which, of the size of a square line, was very brilliant and of a mercurial whiteness. The plate having been heated underneath, the spot disappeared, and the original color of the copper was restored, which proves that the spot was mercurial.—*London Med. Times and Gaz.*, from *La Presse.*

An Analysis of the Symptoms of twenty-one cases of Meningitis in the adult. By J. Lewis Smith, M.D., Physician to the Northwestern Dispensary, New York.—Perhaps there is no inflammatory disease so vaguely written upon, or so little understood, as inflammation of the arachnoid and pia mater. This arises chiefly from the fact that this inflammation usually coexists with that of the dura mater, or cerebral substance, or with disease elsewhere, modifying and obscuring its symptoms, and, perhaps, changing its course.

My purpose, in this paper, is to determine whether the books give a correct account of this disease, and to this end I have collated, as far as

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possible, records of primary meningitis, and secondary, where the primary disease seemed so mild as not to produce any material modification in the patient's condition.

My investigations have been restricted to adults, from the reflection that in them the symptoms may be different from those in childhood; and in order to avoid those numerous cases of acute hydrocephalus, which is especially a disease of early life.

The whole number in my collection is only twenty-one, as, for various reasons, I have rejected most of the recorded cases of this disease. Of those published in Abercrombie's celebrated treatise, I employ only one; the rest, with the exception of a lady, in whom the disease was combined with inflammation of the ear, being either children, or else showing, after death, merely a vascular condition of the membranes. Vascularity, with or without serous effusion, may indicate, it seems to me, simply a state of congestion; and I find that Dr. Watson, of London, objects to these cases of Abercrombie, on this ground.

The French writers, as Andral, give minute records of meningitis, but most of the cases published by them present such complications, that I have not dared to use them.

Records where the patients recovered, and several such are found in the journals, have also been rejected, in the belief that we cannot yet make a positive diagnosis of meningeal inflammation from the symptoms. Only such cases have been employed as showed after death a lymphy deposit on or under the membranes.

Before proceeding to the analysis, a word should be said of the so-called cerebro-spinal meningitis, an epidemic disease, which has prevailed in various parts of Europe, as Gibraltar and Strasburg, and in our own country. The pathology of this disease is not yet understood,—some considering it a local, others a constitutional affection; and there has been a corresponding discrepancy in the treatment. Whatever may be its nature, it is evidently very distinct from the sporadic inflammation, and cannot properly be considered with it.

In nine of the twenty-one cases, the cause of the disease was not apparent. Perhaps, in some of these, a more minute autopsy would have discovered a morbid process, to which the inflammation was secondary; for the best pathologists agree that secondary meningitis is more common than primary. If, in any of them, such disease were present, it was no doubt mild, to have escaped detection. Five had tubercles in the membranes, in the midst of the inflamed surface, and in four there were tubercles in the lungs, and not elsewhere. Meningeal inflammation has been frequently noticed to accompany phthisis; and as post-mortem examinations often reveal the inflammation, without the presence of tubercles to excite it, the tubercular *diathesis* has been properly called the cause of the meningeal disease. When tubercles are found on the membranes, they, no doubt, in some instances are deposited during the inflammation, just as pneumonia may cause the first tubercular deposition to take place in the central or lower part of the lung, instead of its usual seat, the apex.

In one case, the meningitis seemed to arise from erysipelas of the neck

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and scalp, in one from intemperance, and in one from reaction after profuse hemorrhage. From the records, it does not appear that the primary and secondary forms differed in any important particular. On the average, the symptoms, both in kind and intensity, seem to have been about the same.

Determining the duration of the disease has been somewhat difficult; but dating from the commencement of well-marked cerebral symptoms, as headaches or delirium, I find, in fifteen cases, the period to vary from one to thirty-three days, with an average of fifteen. In one other case, the time seems pretty accurately fixed at three and a half months, including an interval of improvement.

Symptoms.—Headache was one of the most common, generally severe, but sometimes slight. It is recorded in fourteen cases, in all of which it began the first day, and continued till the patients sank into delirium or coma. In no case is its absence recorded.

One only had convulsions. This man was a soldier in the French army at the time of its retreat from Moscow, subsequently to which he was subject to epileptic attacks. An autopsy of all the viscera showed no disease except the meningitis.

How the opinion has become so prevalent, that inflammation of the meninges gives rise to convulsions I do not know, but presume it is because this disease is most common in childhood, and convulsions usually attend this as well as other encephalic diseases in early life. Perhaps English and American physicians have derived their knowledge of diseases of the brain and membranes more from Abercrombie's treatise than any other source; and, as we have said, nearly all the cases in his collection were children. He gives the opinion that "the more common form in which the attack takes place, is by a sudden and long-continued paroxysm of convulsions," alluding to an attack of meningitis. On the contrary, our analysis clearly shows that convulsions are not a symptom of this disease except in childhood, and this correction should be made in our standard works.

A rigid and flexed state of the upper extremities was present in one case, in one trismus, in another paralysis of one side of the face, in another of an arm, and in four of an entire side.

Delirium was noticed in fourteen cases; in three coming on in the commencement of the disease, in the others not till near the close of life. It is not stated whether the remaining seven were delirious, so that if this symptom were present, it was probably of the passive kind.

Vomiting, so common in the acute hydrocephalus of childhood, occurred in only six cases, and in these, with one exception, not till the disease was well advanced.

The pupil in six cases was dilated during the comatose state, and in two others, before the development of coma, it was contracted, the condition during coma not being mentioned. Besides these, four exhibited some unnatural appearance of the eye, as strabismus, occurring, probably, from effusion. In the remaining cases the condition of this organ is not recorded. In one instance where the pupils were dilated, thirty leeches were applied to the neck, and while the bites were still bleeding con-

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traction took place. This goes to show that simple congestion may cause dilation, which may not, therefore, be always so grave a symptom as is usually thought.

Retention of urine was present in six cases, and incontinence in one.

The pulse in seven was under eighty till near the close of life. Of these, three were phthisical, two had headache for two years, and one for life, one had had pain for a considerable time in the lumbar region, the cause not being apparent, and in the other the inflammation appeared to be primary. Three had a pulse varying from 80 to 100, two were phthisical, in the other the inflammation was primary. Three had a pulse over 100, of whom two were consumptives. The thought may occur, whether this discrepancy in the condition of the pulse may not have been due to compression from the effused fluid. A compressed state of the brain, will, in many instances, prevent acceleration of the pulse, though the inflammation is intense. But this explanation does not answer, for the symptoms of compression were generally absent till near the close of life. It is better to consider this diversity due to a difference in the grade of inflammation, as is the case in the inflammation of other serous membranes.

The mode of death in sixteen cases is given, in all by coma, varying from a few hours to two or three days. Generally the effusion of serum and lymph seemed sufficient to cause the coma.

The seat of inflammation in seven cases was the base of the brain, in four the convexity of one hemisphere, in three the upper surface of both, and in two the entire meninges. In the remaining cases the seat of disease was not recorded accurately, though the deposit showed undoubted inflammation.

From this analysis the following conclusions may be drawn:—

1st. That a common cause of meningitis is the tubercular diathesis.

2d. That if in any of these cases the inflammation was primary, and not dependent on a diathesis, it did not differ materially from the secondary form either in gravity or duration.

3d. That meningitis usually commences with headache.

4th. That convulsions are not a symptom of it.

5th. That delirium is present in the majority of cases, occasionally early, but generally not till the disease is far advanced.

6th. Vomiting does not occur till a late stage of the inflammation, and then in only a moderate number of cases.

7th. The pulse differs in different cases, and is, therefore, the less reliable as a means of diagnosis.

8th. Paralysis sometimes occurs at a late stage of the disease, but generally there is no contraction or rigidity of the limbs.

9th. That the mode of death is by coma. It is not our object to speak of the treatment, as all the cases were fatal, and in no instance did the remedies differ materially from those recommended in the books.—*New York Journal of Medicine.*

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Fatal Poisoning by Nitrate of Potassa. By JOHN SNOWDEN, M.D. —A German, who spoke English imperfectly, went into a store, and asked for "bitter salt," meaning sulphate of magnesia. The attendant supposed he meant saltpetre, and gave him half-a-pound. The man took three ounces and a half at one dose. His bowels were opened three times within three or four hours. He complained of a slight sense of heat in the epigastrium, and drank a good deal of water. About five hours after having taken the saltpetre, he suddenly fell out of his chair and died.

The marked peculiarity, in this case, is the absence of the painful symptoms which usually follow the ingestion of irritant poisons; and the question arises, how was death produced? Certainly not by inflammation of the stomach, for he complained of nothing but a slight sense of heat in the stomach. The poison must have acted by destroying the vitality of the blood. There was no *post-mortem* examination. The rigor mortis was very imperfect, the lips of almost a natural pink hue, and the appearance of the countenance so life-like, that some persons who were present doubted the propriety of interment on the third day. —*New Jersey Medical Reporter.*

Two Cases in which Turning could not be accomplished, in consequence of the Head of the Child remaining firmly fixed at the brim of the Pelvis, preventing the Breech coming down. By JAMES WILSON, M.D. —On May 6th, 1854, the Clerk of the Glasgow Lying-in Hospital was requested by Mr. Hill to visit Mrs. ——, aged 33, residing in St. Ninian Street, Gorbals. Has had several children, all of which were still-born, and more or less premature, two having presented with the feet. All her labors were tedious and difficult. Had arrived at the full period of utero-gestation, and had been in labor eight hours when first visited. The liquor amnii was nearly all discharged, the uterine contractions were powerful and regular, and the os uteri dilated nearly to its full extent. The head was found to present with a loop of the cord prolapsed before it, and pulsating strongly. The sacro-pubic diameter appeared considerably diminished, and the outlet much contracted. The patient, ever since her first delivery, had been strongly impressed with the idea that there existed some pelvic malformation, and stated her belief that she could never give birth to a full-grown living child. She consequently expressed much anxiety and alarm as to her state.

It became a question, whether turning or delivery by the forceps should be had recourse to. Seeing that the pelvic apertures were so contracted, preference was given, with the concurrence of Dr. Stewart, to delivery by turning. As the patient decidedly objected to the inhalation of chloroform, several large doses of laudanum were administered at intervals, with a view to moderate or suspend the action of the uterus, which, however, failed to produce the effect desired. Unwilling to delay any longer, and as Dr. Stewart had been obliged to leave, he (the Clerk) introduced his left hand up to the fundus uteri, seized hold of and brought down the left foot of the child into the vagina. On at-

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tempting extraction, a serious and unlooked-for obstacle to delivery arose. The child's head would neither move nor recede, but remained permanently and immoveably fixed at the pelvic brim, while vigorous efforts were made to push it up or aside, so as to allow room for the transit of the breech. During this time the cord was necessarily exposed to much pressure, and its pulsations had nearly ceased. As this locking or wedging-in of the head and foot, proved for the time being an insurmountable barrier to delivery, my assistance was requested. On my arrival, the state of matters was as just described. After great and continued exertion, I ultimately succeeded in pushing the head out of the way, so as to make space for the descent of the breech. Considerable difficulty was experienced in extracting the head, after the body of the child was born. The infant, a full-grown healthy male, was in a state of irrecoverable asphyxia. The placenta came away in the usual time. The mother gradually sunk, and expired 38 hours after the operation, apparently from exhaustion, and excitement produced by officious parties improperly interfering with the necessary operations of the medical attendants, whereby the opportunity was lost for easy and safe delivery.

On the 31st July last, I was called to assist a friend with a case in some respects exactly similar to the one just described. The lady had given birth to one child, a boy, about four hours before, and the doctor was then engaged with the delivery of a second, which he had partly turned. One foot was in the vagina, and also an arm, and the head of the child, as in the above case, was firmly fixed at the brim of the pelvis. Considerable force had been used to bring down the body, but without effect—the head presenting an insurmountable obstacle; and although great pressure had been used to raise it, and remove it out of the way, it remained firmly fixed. I made an attempt to press up the head, and at the same time pulled gently by the foot, without effect. The child was evidently dead. The uterus was acting so powerfully, that we feared rupture would take place, and without further hesitation we decided on perforating the head. We had neither perforator nor crotchet at hand, and, as the case was urgent, I, without difficulty, opened the head, and broke down the brain with a pair of large scissors, and passing my finger into the cranial opening, it answered the purpose of a crotchet very well, at the same time pulling by the protruded arm, the delivery was accomplished without much difficulty. No doubt, the extraction was rendered comparatively easy, in consequence of the powerful action of the uterus. The patient's recovery was perfect.

In these cases there cannot be a doubt that the head remaining at the brim of the pelvis, when the body of the child was brought down, and pressing upon it, was the cause of the difficulty, and also occasioned the children's death. Perhaps the only way to prevent this occurrence in such cases, when version is rendered necessary, is to have recourse to that operation (when we have it in our power) before the uterus is contracted and the waters discharged. When the uterus is uncontracted, and the waters not drained away, the elasticity of the child will move the head from the brim of the pelvis as we bring the feet down; but if the uterus is contracted, and the elasticity of the child gone by death,

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then the head will remain as in the above cases. When I have had the management of turning from the beginning, this difficulty has never happened to me. I either push the head aside at once, or, when bringing down the foot, I have no difficulty in pressing the head aside with the upper part of the palm or wrist of the same hand with which I hold the foot. Dr. Rigby says, in reference to such cases as the above, "We should perform this step of the operation so gradually, as to be assured that the presenting part has quitted the pelvis before the feet have entered. Without attention to this point, the child may easily be fixed across the upper part of the pelvis, or even the body brought down, while the head is wedged in the *cavitas iliaca* of the ilium, and produce a serious obstacle to its further advance. This sort of mishap can rarely happen, except to young practitioners."* Smellie appears to have guarded against this ever occurring, for in almost all his recorded cases he seems to have turned the child before he brought down the feet. With respect to the first case, it may be said that the delivery should have been effected by perforating the head, as was done in the last case. But as there was no positive proof of the child being dead, it was considered proper to act as I did, with the view of saving the child. I have delivered many children alive, when I experienced greater difficulty than in that case.

I may remark, in conclusion, that in many of those cases where I have been necessitated to perform craniotomy, and where there was no urgent necessity for speedy delivery, I have found it much better, after perforating the head, to permit the woman to rest for a number of hours, whereby the brain becomes completely discharged, the skull collapses, the uterus by rest regains its power, and the child may be expelled by the uterine efforts alone; or at least much less extracting force may be required than had we attempted to complete the delivery immediately after opening the head. For it must be confessed, that though the operation of craniotomy is much easier, and requires less skill than the right use of the forceps, yet the extraction of the child is often attended with the most extreme difficulty to the practitioner and danger to the mother, in consequence of the very great force we are often under the necessity of using.—*Glasgow Medical Journal.*

The Ricinus Communis as an Emmenagogue and Galactagogue.—Clara Shymaski, brought to the Charity Hospital 25th December, 1853, bed 522, ward 34; the following was gathered by Dr. Nott, physician to the ward: She had had amenorrhœa for six months, with vomiting of blood at short intervals; wandering pains throughout the whole body, and a fixed pain in the right hypochondriac region. The skin around the margin of the umbilicus was of a reddish hue, and from the centre there exuded a milky fluid, which she has observed for nearly three years; she had dull pains in the temple recurring frequently; insomnia with nightmare, which caused much disquietude; but little appetite. The patient had yellow fever in 1853, at the same time as her husband,

* Rigby's System of Midwifery, p. 151.

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whom she was unfortunate enough to lose; to grief at this bereavement, together with the privations which were consequent, and to bad medical treatment for subsequent mental and physical disorders, may be traced the chain of symptoms, of which the above is a synopsis.

After three days' treatment directed to the relief of the most urgent symptoms, Dr. Nott orderered the following: four or five ounces of the leaves of the *palma christi* (*ricinis communis*) to be boiled in six or seven pints of water; with this decoction: the breasts to be rubbed, for ten or twenty minutes three times daily, afterwards the leaves applied to the parts and permitted to dry, the treatment to be continued for three days, when if no good result followed, to be abandoned as useless.

On the second day of treatment a few drops of menstrual blood appeared; on the third, the menstrual flow occurred and lasted for several days; the patient after this experienced great relief, and was better than she had been for a long time; her appetite returned, together with good spirits. She left the hospital on the 19th of January, completely well.

It may be well to remark, that during the application of the remedy, the patient experienced sharp pains in the breasts, which, however, disappeared after its discontinuance.

Margurite Blans, aged 18, arrived in this city from Havre, towards the end of October, 1854; was brought to the Charity Hospital on the 15th December; sick eight days with typhoid fever with pulmonary symptoms. The disease progressed and assumed a grave character, great prostration, with very feeble pulse, no appetite, much thirst, indisposition to converse, oppressive pain in the chest notwithstanding a diminution of the pulmonary engorgement; there was great doubt as to the termination of the disease, when I discovered by questioning her, that she had not menstruated since her arrival in New Orleans; this fact was communicated to Dr. Nott, who ordered a trial of the treatment mentioned in the first case. The results were equally happy; on the third day the menses began and lasted for several days. Her health rapidly improved, her appetite re-appeared, and in a short time she regained sufficient strength to leave the hospital, after a sojourn of one month.

There are two varieties of the plant, the white and red; the latter is carefully avoided, as it is a violent irritant and produces an inordinate flow of the menses.—*New Orleans Medical News and Hospital Gazette.*

SHORT NOTICES OF HOSPITAL THERAPEUTICS.

Treatment of Hospital Phagedæna.—The prevalence of phagedæna, which, during the past nine months, has been pretty general in the London Hospitals, seems now to be steadily diminishing. It has been very difficult to arrive at any satisfactory conclusions respecting the laws regulating its occurrence. At one period, it has appeared to spread through a certain ward, or to prevail in a certain Hospital, as if by contagion; while, at others, observations have been made tending strongly to support the opinion, that it was largely under the influence of atmospheric changes. It has prevailed very irregularly in the different Hospitals, being now epidemic in one, and then, after the lapse of a short

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time, appearing in another. On the whole, it has been a mild form of the disease. Very few have, we believe, died of it and a vast majority have recovered after a short and not very destructive attack. In several instances, however, in which stumps, after amputation, have been attacked by it, so much of the soft parts have been destroyed, that a second removal of the bones has become necessary. With regard to the treatment of the disease, the following recommendations might, we think, be summed up as the results of the combined experience of the Surgeons who have been most engaged with it :—

1. *As soon as a wound shows a tendency to become sloughy or phagedœnic, to have the patient change his bed, and if possible, his ward.*— This practice was pursued in almost all cases in Guy's and in the London Hospital, and more or less in most others. Often very sudden benefit was remarked. The recommendation, of course, proceeds on the supposed desirability of removing the patient away from any local influences, contagious or endemic, which may have had part in producing the disease. The following case may be quoted as illustrative :—A boy, in excellent health, submitted to primary amputation of the arm, on account of a crush, under the care of Mr. Wordsworth, in the London Hospital. On the day following the operation he was remarkably well, and had not the least constitutional disturbance. During the next six days he continued well, and the stump was granulating healthily, when it became necessary to change his bed, and to put him into one from which a man who had died of pyæmia had been removed. Mr. Wordsworth directed that all the bed furniture should, as a measure of precaution, be removed; and, with the exception of the mattrass, this order was complied with. On the morning following the change of bed, the lad was feverish and restless, and his stump had lost its granulations and presented a sloughy surface. He was at once ordered back to his original bed. The phagedæna did not spread; but, almost immediately after the second change, the condition of the stump began to improve, and ever afterwards the advance was uninterrupted.

2. *To destroy fetor by the employment of charcoal.* In this way, probably, not only is a gas decomposed which was likely to have acted prejudicially on the animal functions, but one which might not improbably have been the means of direct infection.

3. *To employ nitric acid as an application to the sore.* Most Surgeons have formed a very high opinion of the value of this remedy when efficiently used. The acid should be concentrated and pure, and should be liberally applied. We have already at such length spoken in its praise that anything further need scarcely be here added. (See *Medical Times and Gazette* for Jan. 6, page 9.)

4. *To employ as constitutional measures tonics and general stimulants with in some cases opium, or the chlorate of potash as specific remedies.* Respecting the use of the latter, a considerable difference of opinion prevails; but instances have occurred in some Hospitals which appeared to show almost incontestably their potency in at least some individual cases. The chlorate of potash well deserves a much more thorough investigation as to its remedial powers than it has yet received.

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Stomachic Pill.

The following is the prescription for an excellent dinner pill. We copy it from the Pharmacopœia of Guy's Hospital:—

Take of powdered capsicum, ʒi.; powdered rhubarb, ʒij. Make into a mass with treacle, and divide into sixty pills. Two or three to be taken every day before dinner.

Lotion of the Chlorate of Potash.

In the Middlesex Hospital, Mr. Moore, and also several of his colleagues at his suggestion, have been largely using a lotion of the chlorate of potash as a dressing for unhealthy sores. It is considered to have been very successful. The strength has been from two to three drachms to the pint of water. It has been freely applied on lint.—*Medical Times and Gazette.*

Case of Poisoning by Cantharides.

(Read before the Boston Society for Medical Improvement, by C. D. Homans, M.D.)

The following account was communicated to me in a letter from Dr. C. H. Hildreth, of Gloucester, Mass.

On the 27th of October, at 2, A. M., was called to a patient giving the annexed history and presenting symptoms enumerated below:—

Early in the preceding evening he applied at an apothecary's and purchased about ʒss. of a powder supposed to be the *pulvis aloes cum canella* of the pharmacopœia, known among the vulgar as *picra*, or, as usually pronounced, *pikery*. The medicine was delivered by a boy in attendance. The patient put the powder into a bottle, added to it a tablespoonful of gin, and shaking the mixture took two spoonfuls, his usual dose for the relief of the irritation of ascarides, from which he was then suffering. He slept as well as usual until 12 o'clock, when he awoke with a severe pain in the lower part of the abdomen, thence extending into the lumbar region, but most intense just above the pubis. This rapidly increased to an alarming degree, and in the course of two hours, at the expiration of which time I saw him, became almost unendurable, although the patient was a man of much fortitude. There was some nausea, but no pain in the stomach, or indeed anywhere except as above mentioned.

Upon examination of the mixture which he had taken, the supposed *picra* proved to be powdered cantharides. Free emesis was immediately produced by the exhibition of the sulphate of zinc and copious dilution with warm water. He vomited several times, the powdered flies being expelled at every repetition of vomiting, but the pain in the abdomen was not in the least relieved. I therefore directed large injections of warm water, frequently repeated, and administered ten grains of camphor and one grain of sulphate of morphine, which dose I repeated every half hour until four doses had been taken, by which time great relief was experienced, and I left the patient.

Three hours after, I saw him again. He had passed water freely; urine natural, and without any trace of blood; had suffered from pria-

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pism to an inconvenient extent for a short time, but it had now entirely subsided. Patient was sitting up; the pain was very slight, nor did it again recur. Had suffered no inconvenience from the large doses of morphine.

Four days after, I saw him again. He then complained of pain in all his joints, especially in the knees; his eyes were inflamed and painful. Upon examination, slight effusion was apparent in the knee joints, and some inflammation of the sclerotic, which yielded to simple remedies, or more probably subsided spontaneously. Perspiration emitted a strong cantharidal odor, especially in the axillæ. Ten days after, he was able to resume his work.

There are some points of interest in this case, among which may be noticed—

1st. The length of time, viz., about four hours, which elapsed before any perceptible effect was produced by the cantharides. Is not *this* analogous to the results of its external application?

2. The apparent want of action upon the stomach, so far as can be inferred from the absence of symptoms.

3. The large quantity of morphine taken without producing narcotism. This, however, is sufficiently often observed in painful diseases of all kinds.

The exact quantity of cantharides actually taken into the stomach, *it* is of course impossible to estimate. The superstratum of liquid in the bottle containing the mixture, is about one third of the whole contents The same proportion would undoubtedly apply to any portion of the mixture after having been shaken up. The quality of the drug is equally uncertain; it was the remainder of a stock that had been on hand for a considerable period, but still retained vesicatory power. The patient had eaten a very light supper before taking the cantharides—a cup of tea and a peace of bread only.—*Boston Med. and Surg. Journal.*

Lupulin as an Anaphrodisiac.—Lupulin, or the active principle of hops, is possessed of powerful sedative effects on the generative functions. This was first entertained by Debout, but more recently Zambaco has published a paper on its anaphrodisiac virtues (*Bull. de Therap.* 30th August, 1854), in which he more than confirms this author's observations. Zambaco administered the medicine in doses varying from 1 to 16 grammes, and he never found sickness or constitutional disturbance attend its use. He has recorded the history of eight cases of painful erections, following gonorrhea, in which it was most successfully employed as a sedative. He affirms that in four-fifths of the cases it allays the morbid erethism, and prevents chordee. It answers this purpose much better than camphor, which often irritates the digestive functions, and fails to produce the desired effect. Besides being possessed of sedative and anti-blenorrhagic properties, which depend on its essential oil and resinous principle, lupulin contains a bitter element which acts as an admirable tonic. Zambaco has seen lupulin given, *as a tonic*, to strumous patients, with the best effects, the appetite becoming im-

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proved, and the digestive organs strengthened.—*Edin. Monthly Journal of Medicine.*

The administration of lupulin as an anaphrodisiac, was proposed by Dr. Wm. Byrd Page, of this city, in the year 1849. In his remarks upon it, he states that he had successfully used it as a remedy to prevent nocturnal erections, more than two years previous to the publication of his article. See Med. Examiner, Vol. v. May, page 284.—EDITOR.

The Nature and Treatment of Diabetes Mellitus. By DR. F. HEADLAND.—After a slight general sketch of the symptoms, he proceeded to the inquiry—What is the physiological cause of this abnormal and excessive secretion of glucose, or grape sugar? Three chief theories had been brought forward to account for this:—

1. *Theory of Renal Disorder.*—By Dr. M. Good, and others of his time, it was supposed that the glucose was formed by the kidney in the act of secretion. The author discussed the various alleged morbid conditions of the kidney in diabetes, none of which are known to be constant. The discovery of sugar in the blood and other secretions of diabetes is sufficient to overthrow this theory.

2. *Theory of Saccharine Assimilation*—held by Bouchardat in France, and by the majority of Physicians in England. It supposes that the formation of glucose is due to a deranged digestion or assimilation. Most consider that it is formed in the stomach; others blame the liver. This notion, also, the author disclaimed, arguing that, after a meal on starchy matters, grape sugar may be found in the blood of a healthy man; that it is part of the function of the liver, to form sugar and fat out of albuminous compounds; and that this explanation does not account for the excretion of sugar, for grape sugar given to a healthy man does not pass out in the urine.

3. *Theory of Saccharine Non-Assimilation.*—Supported by Mialhe, Liebig, B. Jones, and others. To this the author gave his own adhesion. It derives confirmation from the experiments of Lehmann, Dumas, and R. D. Thomson. The starch of the food is the chief supporter of the respiratory process. Starch cannot be absorbed without being first changed into dextrine. This is a sort of transition to grape sugar, into which it is all formed in the blood. This grape sugar is not yet in a condition to be oxidized; it is therefore again changed into two atoms of lactic acid, (or some very similar material.) This then combines with oxygen in the blood, supporting the animal heat by its combustion, and forming carbonic acid. These changes require certain agents, probably ferments, to effect them. Supposing they have proceeded as far as glucose, and the agency be wanting which should change this into lactic acid, then the glucose, not being available to the system, is excreted in the urine. The liver attempts to supply the want by forming glucose and fat out of albuminous food. This glucose passes also into the urine. In addition to all this waste, the very tissues are preyed

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upon to supply fuel for the respiration. The author then discussed at length the subject of treatment, under the following heads:—

A. *Erroneous Plans of Treatment.*

1. Attempts to prevent the formation of glucose.
2. Attempts to hinder the excretive function of the kidney.

The first is a natural process; the second is a healthy provision.

B. *Doubtful Plans of Treatment.*

1. The use of diuretics.
2. Stimulation of the nervous centres, as by strychnia.
3. Treatment directed to the liver.
4. The use of oxidizing agents.

C. *Correct Plans of Treatment.*

Dietetic Rule.—To supply, if possible, such articles of food as shall be able, at the same time, to nourish the patient, and to maintain the respiratory combustion without passing through the stage of glucose. (Amongst other things, fat and oils, dry wines, and milk, were recommended.)

Therapeutic Indications.

1. To give some remedy that shall seem to be capable of causing the glucose to undergo its normal transformations. (Yeast, rennet, pepsine, &c., were discussed. The author particularly recommended *milk just turned sour*, as containing a decomposing caseine, which transmutes milk sugar into lactic acid. He had advised the use of this remedy in his Essay on the Action of Medicines. It should be used as an article of diet; or it may also be given in enemata, and in warm foot-baths.

2. To replace the urinary secretion by means of diaphoretics and purges. (The author recommended copious sweating, for a physiological reason.)

3. To attend to the general health, and to treat complications.—*London Lancet.*

Medical Society of London, Feb. 7, 1855.

Illustrations of Certain Points in the History of Gout.—Dr. Garrod, in his paper, proceeded to consider the chronic states of the articular and non-articular forms of gout. He said, that difficult as it was to separate some forms of acute gout from acute rheumatism, yet this was more difficult still in their chronic state. As to the symptoms which might be brought to bear upon this diagnosis, he believed that it would be allowed by all that the chalk-like deposits, or chalk-stones, are never found except in the subjects of true gout. In composition these deposits consist essentially of urate of soda, the difference met with in the analyses being dependent on the tissues in which they occur; they are alkaline in reaction, and, at first, fluid, going through different degrees of consistence till they become solid. The situations in which they are found, vary exceedingly. They are found within and around the joints, around the ligaments and sheaths of tendons, on the surface of the cartilage of the joints, and under the cuticle, etc. When occurring within the joints, they produce a weightiness on the cartilage, and

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greatly impede motion. They may remain in the body during the lifetime of the patient, which, probably, is generally the case; or they may be dischargod by a kind of desquamation, when, more deeply seated, by causing inflammation or ulceration. When these deposits occur where they may be readily seen,—as, for instance, around the joints, the diagnosis of the case is easily made; but they are not unfrequently confined to a single part of the body, and then are likely to be overlooked by the practitioner. The ear, and sometimes the integuments of the face, are the parts most commonly selected externally, where they may exist singly, or in numbers. They exist more frequently in the ears than has been generally supposed; and it was ascertained, from a collection of cases made, that deposits were present in 45·9 per cent. of gouty cases, in seven-tenths of which the ear alone was affected. He related two cases to show how greatly the diagnosis may be assisted by the discovery of these minute concretions. Though they are indications of gouty affections, their absence is no proof of its not being gout; they are frequently absent, and patients may suffer gout for many years without their being found. On the other hand, some of the worst cases of deposits have occurred within three or four years from the first attack in the great toe. Another valuable diagnostic symptom is the special great toe affection; and Dr. Garrod shows that, out of a number of cases noticed by him, in 82 per cent. this was present. This symptom is the more valuable, that it seldom, if ever, occurs in rheumatism. The sex, too, is not to be disregarded, as gout is much more common in males than females. Out of a table of cases, only five per cent. were females, which would hardly be the case if the pathology of the two cases were alike. Œdema and subsequent desquamation of the cuticle is almost invariably present in gout, the desquamation showing itself when the inflammation is subsiding. These signs occur very seldom in genuine rheumatism. He also mentioned, among other symptoms, some minor points, which, in conjunction with others, might be of some use in diagnosis—viz., the presence of heart affection in rheumatism from prior attacks of acute disease, the dyspeptic accompaniments of gout, the influence of cold and moisture in inducing rheumatism, and of high living, especially of wine and malt liquors, in bringing on gout, and, lastly, the condition of the blood and blister fluid. In all cases of pure gout, the blood contains an abnormal quantity of uric acid, which is not the case in rheumatism; and in cases where the other symptoms are not characteristically developed, the presence or absence of uric acid in the blood may afford evidence as to the nature of the affection. In the place of abstracting blood, of which only a small quantity is requisite, (an ounce or so,) the examination of the serum produced by a small blister, has the same result.—*Lond. Med. Times and Gazette.*

On a Successful Method of treating Acute Rheumatism by large and frequent doses of the Bicarbonate of Potash. By A. B. Garrod, M.D., Physician to University College Hospital.—The author, after a few preliminary remarks, observed, that he was induced, in May, 1852, to try a new method of treating acute rheumatism; and finding great suc-

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cess at first, resolved steadily to pursue the plan, and has done so up to the present time. The object of his communication has been to record the method adopted by him, and also the results obtained in fifty-one cases of rheumatic fever which have been admitted, under his care, in University College Hospital, during the last two years and three quarters, The main part of his plan of treatment consists in the administration. in a diluted form, of two-scruple doses of bicarbonate of potash, every two hours, day and night, until the patient has been free from all articular affection and febrile disturbance for two or three days, using local depletion over the heart's region, if any cardiac disease is present or threatened. The author then detailed three cases of rheumatic fever, illustrating this mode of treatment: the first, a girl, ten years old, in which the duration under treatment was five days, the total duration eight; the second, a young man, aged twenty, with a complication of heart disease, where the duration under treatment was eight, the total duration fifteen days; the third, a young woman, aged eighteen years, in the fifth attack, the former ones having always lasted for a month or five weeks, but which, by the adoption of this plan, yielded in nine days, total duration being but thirteen days, four having elapsed before her admission into the hospital. He afterwards gave a table of fifty-one cases of acute rheumatism; and of each patient the following particulars are noted:—The age, occupation, hereditary predisposition; the number and causes of attack; the symptoms before admission; the symptoms during treatment; the nature of treatment; and the duration of the disease. From these cases, the following deductions are made—viz., that in twenty males the duration of the disease under treatment averaged between six and seven days, and the total duration between eleven and twelve days; and in thirty-one females, the disease under treatment averaged from seven to eight days, and the total duration between fifteen and sixteen days—giving in all an average under treatment of seven days and a half; and, for the total duration, about thirteen days and a half. The author then alluded to the influence of the bicarbonate of potash when administered in large and frequent doses upon the different organs and functions of the body; and remarked, that it produces neither nausea, vomiting, nor purging—in fact, no symptom of gastro-intestinal irritation. It now induces a strongly alkaline condition of the urine, causes it to effervesce freely, with excess of acid, but does not appear to promote an increase in the quantity of the secretion. It appears to render the secretion of the skin less acid—sometimes almost neutral. That it acts as a powerful controller of the heart's action, reducing greatly the frequency of the pulse, but without causing the faintness often produced by digitalis, colchicum, &c. That it probably increases the alkalinity of the serum of the blood, and diminishes the coagulability of the altered fibrine occurring in rheumatic fever; and hence, probably, checking or preventing the deposits of lymph on the endo- or peri-cardium. He (Dr. Garrod) stated his opinion, that the influence of the bicarbonate was felt not only in shortening the duration of the articular affection, but also in preventing or moderating the cardiac disease. After enumerating many details of the method adopted, and the value

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of certain adjuncts, as opium, calomel, and occasional general depletion, he proceeded to recommend a plan of treatment which, from his experience, he considered calculated to ensure the greatest amount of success, and thought it probable that the total duration of the disease might, on the average, be reduced to about ten days,—provided that the treatment was adopted early, and no serious complication existed.—*London Lancet.*

Theory of the Formation of Bone.—M. Flourens, the justly eminent Professor of Comparative Physiology at the Natural History Museum of Paris, is now giving his usual course of lectures on this important branch of medical studies. From the report of these lectures, given in *L'Union Medicale*, we extract the following interesting facts connected with the theory of the formation of bone.

"The *external* periosteum mainly contributes to the *formation* of bone; but the *internal* periosteum (medullary membrane) is the principal agent in the *absorption* of bone. Around the dead portion of bone an internal periosteum forms, belonging to the new bone, which periosteum seizes, and, as it were, gnaws and corrodes the old bone, and finally causes its absorption. (Does not the purulent matter issuing from the fragments carry off a good deal of osseous detritus?) In general terms, in the healthy bone, the internal periosteum may be looked upon as an apparatus chiefly designed for *resorption*. The mechanism of the development of bone appears to consist in a constant mutation of the parts composing it; hence we have mutation of matter, permanence of form. Buffon very justly said, "The most constant and the least variable fact in nature is the *form* or *mould* of each species, and what is most variable and corruptible is *substance*." Bonnetus, with all the physiologists of his time, believed that the growth of bone was effected by the deposition of new molecules between the old ones; but we now know that bone is not a fixed and constant substance, but one successively and uninterruptedly formed of superficial layers, which become again re-absorbed. Hence the fallacy of the theory of accumulated germs."

It is now perfectly known and acknowledged that the periosteum may act as the regenerator of bone. We shall just adduce a case of the late Blandin, mentioned in these lectures, which offers a good practical illustration of this theory.

The patient was a young man between twenty-five and thirty years of age, affected with caries of the clavicle. Various means employed to arrest the disease having failed, M. Blandin, encouraged by the experiments of Flourens, resolved to remove the sternal half the bone, which had been most damaged by caries. By careful management he succeeded in removing the bone without injuring the periosteum more than by the necessary longitudinal incision. This done, the acromial end of the bone was, at the request of the patient, carefully examined and found equally diseased. The latter insisted on having that portion also removed, which operation was performed in the same manner as the first. The patient recovered, and having returned to the hospital for another complaint, about eight months after this complete extirpation of the

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clavicle, it was found that that bone had been completely regenerated. (It is difficult to understand how a bone can be carious and its periosteum perfectly healthy.)—*Ibid.*

Abstract of Meteorological Observations for February, 1855, *made at Philadelphia, Pa. Latitude* 39° 57′ 28″ *N., Longitude* 75° 10′ 40″ *W. from Greenwich.* By Prof. James A. Kirkpatrick.

1855. Feb.	Barometer. Daily Mean	Barometer. Mean Daily Range.	Thermom. Daily Mean	Thermom. Mean Daily Range	Dew Point 2 P. M.	Rel. Humid. 2 P. M.	Rain- and melted Snow.	Prevailing Winds.	Remarks.
	Inches.	Inches.	Deg.	Deg.	Deg.	Hunds.	Inch.	Points.	
1	29.850	.172	27.7	2.2	28.7	0.89		NW.	M. and aft. cloudy; ev. clear.
2	29.773	.077	30.3	3.3	28.0	.69		SW.	Cloudy.
3	29.734	.096	24.0	7.7	13.0	.30		W.	Clear.
4	29.795	.008	20.0	7.3	12.7	.45		W.NW.	M. and aft. clear; ev. cloudy.
5	29.586	.210	20.5	3.8	13.7	.47	0.031	NW.	M. rain; aft. and ev. clear.
6	29.897	.311	4.5	16.0	2.0	.28		NW.	M. and aft. clear; ev. cloudy.
7	29.967	.216	5.7	6.8	3.0	1.00		NE.	Snow. *Therm. lowest* 1°.
8	29.585	.382	22.5	16.8	24.3	.93	0.690	N.	Snow. *Bar. lowest* 29.535.
9	29.076	.118	25.3	4.2	26.8	.93		N.NW.	*Snow*, about 5 inches.
10	29.992	.316	17.7	7.7	16.3	.71		NW.	Clear.
11	29.930	.062	21.8	4.5	22.3	.76		W.SW.	Cloudy.
12	30.117	.187	26.7	4.8	25.2	.73		(Var.)	M. clear; aft. and ev. cloudy.
13	30.080	.074	35.0	8.3	33.7	.67		NE.	Cloudy.
14	29.733	.352	43.3	8.3	45.3	.96	1.748	NE.	*Rain* all day. *Therm. highest* 48°.
15	29.577	.156	39.8	3.5	39.7	.91	0.011	W.NW.	Cloudy; morning drizzling.
16	29.694	.117	37.7	2.2	28.3	.56		W.	Cloudy.
17	29.797	.103	33.7	4.0	29.0	.70		W.	M. and aft. cloudy; ev. clear.
18	29.796	.010	36.7	3.0	28.3	.56		W.NW	Clear.
19	29.790	.026	35.0	1.7	26.3	.54		NW.	M. cloudy; aft. and ev. clear.
20	29.871	.088	33.2	1.8	26.7	.60		NW.	Clear.
21	30.062	.191	34.0	1.8	27.3	.55		NW.	Clear.
22	29.937	.129	39.0	5.0	27.3	.40		NW.	M. clear; aft. and ev. cloudy.
23	29.829	.114	30.0	15.0	26.7	.89		N.	Cloudy.
24	29.963	.130	19.7	11.0	13.7	.47		W.	M. and aft. clear; ev. cloudy.
25	29.832	.131	21.0	4.0	15.0	.34		W.	Clear.
26	29.686	.146	17.7	3.3	11.7	.43		W.	M. clear; aft. and ev. cloudy.
27	29.848	.162	20.7	3.0	18.0	.64		NW.	M. and aft. cloudy; ev. clear.
28	30.105	.287	23.5	2.8	17.3	.45		NW.	Clear. *Bar. highest* 30.199.
Means for Feb. 1855	29.840	.159	26.7	5.8	22.4	.71	2.480	N. 56° W., 83–100.	
4 yrs	29.901		32.3		30.4		3.458	N. 62° W. 54–100.	

The Monthly Range of the Barometer was 0.664 inch., and of the Thermometer 47°.

Postscript.—We are requested to announce that Dr. Brown-Séquard has resigned the chair of the Institutes of Medicine, &c., in the Medical College of Virginia at Richmond.—Ed.

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THE

MEDICAL EXAMINER.

NEW SERIES.—NO. CXXV.—MAY, 1855.

ORIGINAL COMMUNICATIONS.

An Investigation into the Facts and Theories of Fermentation and Putrefaction. By HENRY PEMBERTON, Practical and Analytical Chemist.

Three classes of phenomena, closely allied, if not identical with each other, attract our attention at every step. These are, spontaneous decomposition or eremacausis, fermentation and putrefaction. It is most probable that no essential distinction exists between these phenomena, our imperfect knowledge preventing us from tracing the action that takes place to its source; but enough is known to justify the belief that they are but the varied modes of action of the same principle, governed and influenced by the same laws, and having their origin in the same ultimate cause. The diversity of composition, the variety of conditions, and greater or less intensity of action, are sufficient to account for the difference in the processes and products of organic decomposition.

The term eremacausis, or slow combustion, is principally confined to that class of decompositions in which the decomposing material seems to moulder away, apparently unaccompanied by infusorial or cryptogamic vitality, without emitting offensive gases, and without producing visible secondary products, and leaving as the final residue merely the so-called mould, (humus or humic acid) mixed with the saline constituents of the substance.

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By fermentation is generally understood those peculiar decompositions of organic matters, at common temperatures, originating either spontaneously, or under the influence of another portion of a substance of similar character then undergoing a like change, the ultimate products being for the most part solid or liquid bodies of a less complex organization, and possessing a structure still further removed from the immediate formations of animal or vegetable life. These products are usually unaccompanied by offensive gases, and still possess a highly organized structure, so as to render it impossible to obtain them from the direct combination of their elements, or from other than higher organized bodies than themselves.

By putrefaction, we understand those decompositions that are attended with the evolution of offensive gases, consisting of phosphuretted and sulphuretted hydrogen, hydrocarburets, carbonic acid, ammonia, and the fixed and volatile salts thereof, together with certain volatile organic bodies to which the disagreeable odor is in great part due, and of whose history little is as yet known. The subjects of this change are principally the protein bodies, or substances that, like them, are rich in nitrogen, sulphur, etc., the presence of which give rise to the character by which this mode of decomposition is distinguished from others.

All these phenomena agree in requiring certain conditions that are essential to their existence. These are, warmth, moisture, and the presence of oxygen or atmospheric air; to which is to be added, in the opinion of many writers, the presence of the sporules or ova of microscopic organisms.

The importance of the rôle played by these phenomena in the economy of nature, is secondary to none. To them we are indebted for the restoration to the treasury of the elements, of those effete tissues and worthless frames that once were the dwelling places of animal or vegetable life, but which would now lie as useless incumbrances upon the soil, excepting so far as they might furnish food to other creatures—an outlet too limited and too uncertain, to meet the wants of Providence. By these means, however, no sooner does a flower wither, or an animal die, than the processes of decomposition commence, and in proportion to the urgency of the wants of the young and growing vegetation, stimulated by the warmth of the early summer sun, is the rapidity

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with which these agents work; dissolving the combinations now rendered useless, and throwing off their elements in the form of compounds, nauseous to man, but doubtless filled with sweet odors to the tender plant.

The position occupied by these agents among the dynamical powers of nature is as interesting as anomalous. Only finding a dwelling in those places where vitality has dwelt before, they seem a species of life in death, imitating, in a feeble manner, those processes that were carried on when life itself was there. To the philosopher they offer the only point where he can observe anything resembling the transitive steps from the inorganic to the organic world; where he can watch, as it were, in their rudimentary form, those curious combinations and changes that take place within the living body, and find, if man is ever permitted so to do, the key to the mystery of vitality.

Whatever may be the variety of opinions held with regard to the immediate exciting causes of malarious diseases, there can be no doubt as to the close and intimate connection of malaria with the presence of decomposing vegetable matter. Dr. La Roche, in his most admirable work upon pneumonia and malaria, proves most satisfactorily that organic matter in a state of decomposition is present in all cases where miasma originates; and although the conditions of heat and moisture are essential, the presence of decaying vegetation is also indispensable.—Since it is most probably only by the investigations of the obscure phenomena of fermentation that we can ever hope to arrive at a knowledge of these occult influences, this process becomes of the greatest importance, and deserves a far greater share of attention than it has as yet received.

Before considering the history of the laws that govern fermentation, it is indispensable that we should be in possession of all the important facts relating to the subject, as it is only by the close comparison of fact with fact that this branch of science can ever be removed from the obscurity in which it still remains. No department of knowledge has received less attention, it being generally considered as beyond the reach of explanation, and, like the doctrine of catalysis, as being the "ultima thule" of investigation. Thus a German writer, of high position, (Professor Julius Schlosberger,) who has himself paid much attention to

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this subject, in speaking of the action of certain animal poisons,* uses the following language: "Since all the theories of the nature of the poison, capable of experimental proof, are not yet exhausted, I think it best *to discard the idea of a ferment, since its nature prevents all further investigation.*" Such are the views generally held regarding this process.

We will now endeavor to present, in as concise a form as possible, all the facts and experiments that we can find, that may cast any light upon the process or theories connected with this subject. In every case we have referred to the original paper by the author, when obtainable, and not to a mere abstract by another, as errors and misstatements frequently occur in copies and abridgments, and many points are rendered obscure which are perfectly intelligible when in connection with the rest of the text.

In a substance undergoing eremacausis, the carbon and hydrogen unite with oxygen, forming carbonic acid and water. The nitrogen is evolved partly as gas, partly in the form of nitrous and nitric acids. The fixed residue from wood, etc., humus or humic acid, is very rich in carbon, most of the oxygen contained in the wood uniting with the hydrogen and part of the carbon, the rest of the carbon being ultimately, though very slowly, oxidized by the atmosphere. The hydrogen of organic substances, when the supply of air is limited, unites with the nitrogen of the atmosphere, forming ammonia, thus affording the nitrogen necessary to the growth of the mould plants on the decomposing substance.† Frequently, when the access of air is impeded, while the other conditions remain the same, eremacausis ceases, the formation of mould commences, and true putrefaction sets in.† A substance undergoing eremacausis, induces change in other bodies, the union of hydrogen and oxygen, etc. (Saussure.‡) During eremacausis, heat is evolved, generally scarcely perceptible, but in favorable circumstances producing actual ignition. Frequently eremacausis is induced in a substance otherwise incapable of it, by contact with a body in that condition. Thus, decaying wood causes the oxidation of diluted alcohol into acetic acid, and other decaying matter will produce

*Schmidt's Jahrbuch, 78, 4. † Gmelin's Handbuch.
‡ Liebig's Handwörterbuch der Chemie.

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the oxidation of hydrogen into water, and of ammonia into nitric acid. These substances unite with oxygen at common temperatures, only in the presence of decaying organic matter, the action ceasing as soon as the decomposing substance is removed.*

It has been observed by the colonists in America, that a large tree, when felled, completely disappears in from 33 to 35 years, with the exception of the bark; the leaves, small twigs, etc., of course in a much shorter period.* The dry rot of timber may perhaps be considered as an instance of eremacausis, although frequently attributed to the effects produced by a vegetable parasite that attacks it. The author has seen four floors of a large store, constructed in the strongest manner, completely destroyed within two years by this cause, so that the heavy joists would not bear their own weight. In this case the timber was covered with a green mould, quite perceptible to the naked eye. Improper ventilation and a certain amount of dampness appear to be essential conditions.

When caseine, free from sugar of milk, is covered with water and exposed to the air for two or three months, it is converted into ammonia, valerianic acid, butyric acid and leucin; a volatile crystallizable solid, having the odor of fæces, and an acid convertible into tyrosin and ammonia, are also formed. Gluten, which is identical with caseine, yields similar products. Bile, similarly treated, undergoes two stages of putrefaction; in the first are formed choloidic acid, taurine and ammonia; in the second, cholinic acid. These metamorphoses of caseine and of bile are identical with the products obtained by the action of powerful chemical agents upon them, and are in no way peculiar to the process of putrefaction. Moist fibrin, exposed in an open glass vessel and in contact with water, quickly putrefies. The change commences on the surface and is propagated downwards, the upper part becoming grey and soft, while the lower part remains white and firm. By frequent agitation the change is much accelerated. The fibrin of blood, covered with water and exposed to the air until it liquefies, yields a fluid having the properties of albumen, forming a coagulum by heat resembling that from white of egg.* Of various animal matters, the brain, muscles, liver, spleen and other glands, pu-

* Liebig's Handwörterbuch.

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trefy first, and develop carbonic acid even in the first hour. The skin, hard portion of the brain, intestines, veins, arteries and stomach, do not develop carbonic acid under 24 hours. The sinews, intervertebral cartilage, etc., undergo no change for a much longer period. When putrefaction has once commenced, it proceeds with the rapid absorption of oxygen and the generation of carbonic acid and ammonia; sulphuretted hydrogen and carburetted hydrogen (marsh gas) are frequently found, particularly in the putrefaction of the muscles, (J. Davy.*)

When putrefying blood, caseine, etc., are mixed with a solution of sugar, the disagreeable odor is at once diminished, and as soon as fermentation has fully set in, ceases entirely. The rapidity and products of putrefaction depend upon the nature o the atmosphere surrounding the substance. When fresh beef is enclosed in an atmosphere of oxygen gas, it becomes a brighter red on the first day, then pale and moist; drops of clear liquid sweat out, which afterwards become milky, and in 11 days it is putrid. In 51 days it liquefies with an unbearable odor. A large portion of the oxygen is converted into carbonic acid. In hydrogen gas the meat becomes brown, is not putrid in 11 days, and has a slight sour smell. In 54 days, the meat preserves its appearance, but has an intolerable odor, yet differing from that in oxygen; carbonic acid was found mixed with the hydrogen. In carbonic acid it becomes first brown, then red, then pale, looks like cooked meat; is soft, but not glutinous; dries in the air, without spoiling after 51 days. In sulphurous acid gas the meat is at once discolored, is much harder and drier, and after 76 days dries in the air within four days without decomposition. The same effect is produced by fluosilisic acid gas. In oxide of nitrogen it becomes immediately bright red; after 11 days it is still red, inodorous, and dries in the air. After being 134 days in the gas it is still of a fine red color, firm, and smells of nitric acid. In ammonia, it remains 76 days without change; when taken out it is soft, without odor, and dries in the air without spoiling, into a shiny brown mass, (Hildebrandt.*)

Pieces of meat placed in contact with plates of copper and of zinc do not enter as soon into putrefaction; those pieces in contact with the zinc become electro-negative, and give ammoniacal

* Gmelin's Handbuch.

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products and hydro-carburets (marsh gas?), those in contact with the copper plates give rise to the formation of acids, acetate of copper, etc., (Charles Matteuci.*) According to Wurtz,† fibrin when exposed to the air for some time is converted almost entirely into butyric acid. Albumen as well as fibrin is convertible, under certain conditions not very well known as yet, into a peculiar fatty body called adipocire, consisting of the fatty acids saponified by ammonia, mixed with variable proportions of the free acids. It is frequently formed in bodies that have been buried in a damp soil, or immersed in water containing much carbonic acid, occasionally constituting the sole residue, the bones even having disappeared. According to C. Blondeau‡ it can be formed from fibrin under the same conditions that attend the conversion of caseine into the so-called Roquefort cheese, and is attended with the growth of a green cryptogamic plant, to which he applies the name of Torula viridis, the presence of which he considers essential to the process.

When fresh milk is placed in vessels of the same form, but constructed of different materials, the coagulation takes place at different periods. Thus on the 21st of April milk was boiled and placed in vessels of various kinds with the following results: On the 24th, coagulated in the vessels of porcelain, glass, and lead.

" 25th, " " Platinum, solid and tinned iron.
" 26th, " " Tin, bismuth and antimony.
" 27th, " Sulphur. On the 28th, in zinc.
" 30th, " Copper and brass, after being covered with mould.

The odor and taste of the curd and the character of the cryptogamic growth, also differed with the material of the vessels, (M. Bouchardat.§) When milk is boiled in a bottle which it three fourths fills, and the air excluded, it is found at the end of 20 days in June, to preserve its properties unchanged. The enclosed air still contains 16.7 per cent. of oxygen. If the bottle is only $\frac{2}{3}$ full or less, the oxygen is absorbed and carbonic acid formed; the milk remains fluid. When only $\frac{1}{2}$ full, the milk has an acid reaction, coagulates

* Annales de Chemie et de Physique, t. 42, 1829.
† Annales de Chem. et de Physique, t. 11, 3e. s. 1844.
‡ Jour. de Pharmacie, t. 12, 3e. S. 1847.
§ Jour. de Pharm., t. 19, 1833.

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on heating, and yields a little alcohol on distillation. (Th. v. Dusch and Gmelin.*) Schröder and Von Dusch,† in their experiments upon the filtration of air, found that milk soured in a flask after boiling, although filtered air only had access thereto, while meat broth remained, under the same circumstances, unchanged.

Liebig states that milk placed in a vessel and covered with paper, undergoes the lactic fermentation without the production of vegetable growth. When milk is exposed under ordinary circumstances to the air, it rapidly coagulates and becomes sour. Coagulation is also effected by immersing in the milk a piece of rennet, (the mucous membrane of a calf's stomach,) or by the addition of water in which the rennet has been macerated. This effect, however, is only produced after the membrane has been in contact with water and air for some hours, perfectly fresh rennet being without action upon milk. The curd and whey thus obtained differs from that formed by the spontaneous coagulation of milk, in possessing an alkaline or neutral reaction, while that formed without rennet is strongly acid. The curd is also insoluble in carbonated alkalies, excepting by long boiling, and contains therein in chemical combination the phosphates of lime and of magnesia, the presence of which render it insoluble in alkaline solutions. As an article of diet, therefore, whey from sour milk is preferable to that produced by rennet, the phosphates so necessary to the growth of the body being absent in the latter. Rennet, capable of coagulating milk, causes the conversion of sugar into lactic acid, but if left exposed to the air for a long time excites the alcoholic fermentation instead.‡ A mixture of caseine, sugar and water exposed to the air for some time becomes covered with various species of cryptogamic vegetation. The most prominent is the Penicillium glaucum, then a plant formed by the union of globules into twigs (Mycoderma vini), another covered with green sporules, and an orange red cryptogamia, resembling the Oidium aurantiacum. When whey from the spontaneous coagulation of milk is set aside at a temperature of 72° to 77° F. it becomes in a few days cloudy, and shows, under the

* Gmelin's Handbuch.

† Medical Examiner, vol. 10, and Liebig's Annalen, 1854.

‡ Liebig's Handwörterbuch.

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microscope, a great number of globules. In 24 hours, a pellicle covers the surface, in which can be seen the stems and branches of the Penicillium glaucum, soon giving rise by their growth to a vegetation of regular form, consisting of twigs, radiating from a centre. After a month, on adding alcohol to the liquid, the globules coagulate, and form a mass resembling gum, white at first, but soon becoming yellow; much lactic acid is present. (C. Blondeau.*)

The manufacture of Roquefort cheese has attracted much attention, from the curious fact that it can only be made in the village of Roquefort, whence it derives its name. This peculiarity is owing to the nature of the caverns in which the cheese is placed to ripen. According to Marcal de Serres,† who paid a visit to the place, for the purpose of examining into its manufacture, these caverns constitute what are called ice grottos, and possess throughout the summer a temperature but little above the freezing point (from 41° to 45.5° F.) During warm weather a constant current of cold air issues from their mouths, but in winter the current is reversed. This effect is produced by the warm dry air, that enters through numerous fissures at the top of the caverns, being chilled by the damp rocks, becomes specifically heavier, and consequently descends. In its course downwards, it meets, constantly, in the narrow passages, with cold water, exposed in the manner most favorable to evaporation, which cools the air more and more, until it finally reaches a point at which it is fully saturated with vapor, when further reduction ceases. In cold weather, when the external temperature is lower than the rates here indicated, the action is reversed. The air in the caverns, being lighter than that outside, ascends, and is replaced by fresh air rushing into the lower apertures, thus producing the upward current. Caves possessing similar characters are found in various parts of this country, and are perhaps as well adapted to the manufacture of this cheese as those of Roquefort. Blondeau‡ states that these cheeses are made from the milk of sheep, coagulated by the mucous membrane from a lamb's stomach. The curd is kneaded and pressed

* Jour. de Pharm. 1847.

† Annals de Chemie et de Physique, t. 63. 1836.

‡ Jour. de Pharm. t., 12. 1847.

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into form, being previously well mixed with pieces of mouldy bread. It is then placed in the caves above mentioned, which are not damp, but perfectly dark, where it remains about two months. When taken out, it is found to be covered with mould like that upon the bread. The caseine is converted into a fatty substance, like butter, but differing in its chemical relations. This change takes place from without, inwards, and is produced by the cryptogamic vegetation, which develops itself with great rapidity, the diffusion of the mouldy bread throughout the mass introducing the germs of the plant into every part. No fatty matter is contained in the cheese previous to its introduction into the caves, but when examined after fifteen days it is found in large quantity.

Blondeau also states that during the progress of the lactic fermentation, when chalk has been added to the mixture of caseine, sugar and water, to prevent the increase of free acid in the liquid, that a portion of the caseine unites with the chalk at the bottom of the vessel, and, when separated by muriatic acid, forms a fatty substance, that makes greasy stains on paper. At the end of a month, when the fermentation is ended, the compound of caseine with chalk is no longer found, the caseine being replaced by butyric acid.

Albumen that has been boiled for a long time is almost incapable of putrefaction. Membrane or fibrin that has been washed with alcohol or ether, does not enter nearly as readily into putrefaction, as it does if simply washed and left in contact with water,) probably from the alcohol destroying the organic germs present.) Nearly all other organic substances containing nitrogen, after exposure to the air for a length of time, are capable of inducing the lactic fermentation. Boutron and Fremy state, that fresh animal membranes exert no appreciable effect upon neutral substances, such as sugar, starch, etc., but after having been preserved in water in contact with air for some time, possess this power in the highest degree. According to Thenard, albumen can remain in contact with sugar and water for two months before it will induce its conversion into alcohol and carbonic acid (probably with exclusion of air.)

During the lactic fermentation, if the acid accumulates beyond a certain amount, it stops the fermentation; if the acid

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is removed by saturation with an alkali, avoiding an excess, the fermentation recommences, and continues until the quantity of acid formed again interrupts it, or until the sugar is exhausted. Caseine is not capable of acting indefinitely as a ferment, but after the formation of lactic acid has ceased, it becomes capable of inducing the alcoholic fermentation.* Equal quantities of cane sugar requires eight times as much ferment to induce fermentation as grape sugar does; the latter is the only kind of sugar capable of entering into fermentation; the other sugars are converted into this before undergoing further change (H. Rose.†)

Bouchardat‡ states that the brain of an adult man acts as a powerful alcoholic ferment; while that of a newly-born animal, under the same circumstances, produces the mucous fermentation—probably owing to the unequal lengths of time that the brains had been exposed to the air, and not to any difference in composition.

The commencement of fermentation, and the first appearance of organic growth in a fermentable liquid, are accurately described by Quevenne.§ The phenomena are precisely such as the author has witnessed in the spontaneous change of fresh wort, (infusion of malted grain) at a temperature of 70° F.

"When a limpid fluid, containing the necessary elements for the development of fermentation, is exposed to the air at a temperature of 68° to 77° F., it soon becomes cloudy. If now examined by the microscope, an infinite number of small oblong bodies, and of little black points, isolated, or united in a lineal series, are seen. These objects all have a diameter at most of $\frac{1}{800}$ millemetre. At the end of a variable period, sometimes a few hours, sometimes several days, there appear globules, very pale at first, the terminal circle being very undecided, the centre colorless, united, isolated, or grouped in chaplets or little masses. These are the globules of the ferment. At the instant of their first appearance, they have already their usual size, and do not seem to increase in size during the phases of the fermentation."

* Sur la fermentation lactique, Jour. de Pharm. t. 27, 1841.

† Jour de Pharm., t. 27, 1841.

‡ Comp. rendus de l'Acad. de Sciences, 1838.

§ Jour. de Pharm., t. 4, 3e. s., 1843.

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The description given of this process by Mitscherlich* agrees with the above, except that he has observed a small globule occasionally joined to a larger one, indicating growth by gemmation. He considers the globules different from those formed when a ferment is added.

When any fluid containing albumen in solution, is very slightly acidified, and set aside, it is found in a very short time to contain a number of very small globules, which were mistaken by Liebig for albumen precipitated in a globular form, but which subsequently was proved by Andral and Gavarret to be the first stage of the development of the globules of the Penicillium glaucum. These globules appear in fresh serum from blood, in serous discharges in various diseases, in the serum accumulated in the peritoneal sac, in the serum of hydrocele, serum from the effusion from a blister, and in serum obtained by filtration of pus, (the pus globule remaining on the filter, while the serum passes through.) These represent all the varieties presented by morbid secretions containing albumen. The globules form first in those parts of the liquid in contact with air. If the serum is placed in a flask, gently warmed, and the air expelled by carbonic acid or by hydrogen, and the flask then corked, no globules or other forms of vegetation appear, but on exposure again to the air, they rapidly develop themselves.

Turpin has found the same plant—the Penicillium glaucum—in the milk from diseased cows. The pellicle formed by the growth of this plant in albuminous fluids, will not produce the alcoholic fermentation when placed in a solution of sugar and water, nor even when the latter is mixed with serum, lactic acid always appearing.† Sugar, under the influence of certain animal matters, is sometimes wholly converted into lactic acid; at other times, with the same animal matters, and conducted in the same manner, very little lactic acid, but large quantities of mannite, a viscous substance, and occasionally even alcohol and carbonic acid, are formed. These effects are dependent upon the state of decomposition of the animal substance, varying with the length of time it has been exposed to the air. In the same manner

* Jour de Pharm., t. 24, 1838.

† Researches on the development of P. glaucum in normal and diseased fluids, by Andral and Gavarret; Ann. de Chem. et de Physique t. 7, 3e. S. 1843.

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diastase, which transforms starch into dextrine and into sugar, when exposed to damp air for some time, loses this property and converts starch into lactic acid, (Boutron and Fremy.*)

Mitscherlich† thinks that fermentation is produced by cryptogamic vegetation, and putrefaction by infusoria. During winter, he has observed in putrefying substances, even when immediately surrounded by a warm atmosphere, the presence of infusoria only. These consist of globules ranged beside each other, sometimes to the number of twenty; their diameter is about ·00 m. m. The other infusoria occasionally found, he considers as accidental. A certain amount of oxygen is necessary for the development of these vibriones. They are widely diffused throughout the intestinal canal, as well as in the buccal cavity and the stomach, and are contained in vast numbers in the matters collecting in the cavities and between the teeth, but he has never known them to be found in the blood, milk, urine, bile, or other fluids of that nature. When sugar is added to a liquid containing these vibriones, they multiply rapidly, a vegetation being formed at the same time; but if the sugar is in very large proportion, it stops their growth, and fermentation sets in. Dr. Allen Thompson‡ states that "the embryos or earlier forms of various parasites and the ova of others, have been found in considerable numbers in the circulatory blood of various animals." The reader is referred to Robin's "Vegetal Parasite," for further description of vegetable growths in the human body. Blondeau considers all fermentations are preceded by the development of vegetable germs of various species, and which increase or remain inactive, according to the nature of the medium in which they are found, and whether it is favorable to their growth or otherwise. Each of these vegetations is capable of determining a peculiar fermentation; they have nearly all the same composition, consisting of carbon, hydrogen, oxygen and nitrogen, nearly in the proportions in which they exist in albumen. The carbon is derived from the decomposition of carbonic acid, the hydrogen and oxygen from water, and the nitrogen from ammonia. These substances are furnished by the azotized and non-azotized mate-

* Sur la fermentation lactique, Journ. de Pharm. t. 27, 1841.

† Journal de Pharmacie t. 4, 3e. s 1843.

‡ Todd's Cyclopedia Anat. and Physiology, Article Ovum.

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rials present in the liquids, and which consequently suffer decomposition. The acids formed in fermentation are frequently higher oxides (i. e. contain more oxygen) than the neutral substances (starch, etc.,) the growth of the cryptogamic vegetation being always at the expense of the carbonic acid and the ammonia. The plant appropriates the carbon and hydrogen and rejects the oxygen, which unites with the hydrogen of the ammonia or oxidizes one or more of the neutral bodies present, forming an acid or is evolved in the gaseous form, which frequently is the case in the lactic and butyric fermentations; when mannite is formed, the evolution of hydrogen ceases. When the plant has perfected its condition in the globule state, it rises to the surface in order to complete its existence and reach its full fructification. The liquid now becomes clear, and is covered with a white or colored dust, formed by the accumulation of the sporules of the cryptogamia. The lactic fermentation is caused by the growth of the Penicillium glaucum; the acetic, by the Mycoderma vini, or the Torula aceti. The latter are described as ovoid globules, resembling the Torula cerivisiæ, or yeast plant, but distinguished therefrom by forming voluminous membranes, consisting of these globules united together; the T. cerivisiæ never uniting to form membranes.

The membrane that covers putrid urine is principally composed of the Penicillium glaucum; its development being in the ratio of the conversion of urea into carbonate of ammonia. When the mould on the surface of putrid urine is placed in contact with fresh urine, it causes it to become cloudy at once, and entirely converts the urea into carbonate of ammonia within 24 hours, instead of requiring eight days, as under other circumstances (Blondeau.)

Liebig* states that when fresh urine is enclosed in a clean vessel with air, oxygen is absorbed and a certain quantity of urea decomposed; with the disappearance of the oxygen the decomposition ceases, to be renewed by the access of fresh air, and so on, until the urea is finally all converted into carbonate of ammonia, a small quantity of acetic acid being formed at the same time. The greyish white deposit found in putrid urine produces the rapid spoiling of fresh urine, even without access of air,

*Liebig's Handwörterbuch.

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(probably only to a limited extent.) Gmelin* observes that when urine is enclosed in a glass tube and heated to 212 F. and allowed to cool, the conversion of urea into carbonate of ammonia takes place as in open air, but without any appearance of fermentation. Prussic acid also decomposes under the same circumstance, as it does in air. It is most probable that these changes are induced in the urine, by the small amount of oxygen retained by it, notwithstanding the temperature to which it is exposed.

Another class of decompositions commonly placed in the list of fermentations is produced by a very limited number of organic substances; these substances are diastase and synaptase or emulsin. These ferments, if they are entitled to that name, possess a chemical composition and structure similar to, if not identical with gluten. There is indeed reason to believe that they are but gluten in a peculiar state of hydration. This can only be a conjecture, since there is no means of obtaining either gluten or these agents in a state of such absolute purity as to yield dependable results upon analysis. (Fownes.†) Diastase is contained in malted barley and other grains, being formed from gluten in the act of germination, and is the cause of the property possessed by malted grains of converting starch into grape sugar; the same effect can be produced by other means; thus starch mixed with water to a paste and excluded from the air is converted in a few weeks into grape sugar, but when in contact with gluten at 140° F. in eight hours; when the gluten exists in the form of diastase, in one hour.‡ The same effect is produced by boiling starch made into a thin paste with water, to which about 5 per cent. of sulphuric acid has been added. Lignin or woody fibre is also convertible into sugar by a long continuance of the same process. Starch paste, when long boiled, becomes thin and sweetish; this is caused by a small quantity of gluten being retained by the starch in the process of manufacture.§ A fresh aqueous extract of malted grain converts starch rapidly into sugar; when left exposed to the air for some time, it becomes cloudy,

*Gmelin's Handbuch.
†Journal of Pharmacy, 1843.
‡Gmelin's Handbuch.
§Liebig's Handwörterbuch.

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a flocky deposit forms in it, and if grape sugar is now added to it, the alcoholic fermentation sets in briskly. If left still longer exposed, it becomes strongly acid and has a putrid odor; it now rapidly converts sugar into lactic acid. Bitter almonds contain a peculiar crystallizable principle called Amygdalin; when this is mixed with the albumen or gluten of the almond, in presence of water, the amygdalin is decomposed into hydrocyanic acid, oil of bitter almonds (hyduret of benzoyle) and grape sugar. This albumen or gluten differs somewhat in its properties from the forms met with elsewhere; the name synaptase or emulsin has been applied to it. The gluten of other grains, diastase, etc. produces the same effect in a lesser degree. Emulsin also effects the decomposition of salicin into saleginin and sugar, and the conversion of the salts of myronic acid (contained in black mustard seeds) into the volatile oil of mustard, to which its pungent properties are due. In all of these decompositions one or more atoms of water, enter into union with the products of decomposition; its presence, therefore, is essential.

Exposure to a temperature of 212° F., the presence of alcohol, ether, and many chemical reagents entirely destroy the properties of diastase and emulsin.

Of all the various phenomena presented by putrefaction and fermentation, none have obtained the tithe of the share of attention that has been paid to the progress of the alcoholic fermentation. This process, so important from its general application in domestic life, as well as in the manufacture of various commercial products, excited the interest of investigators at an early date. In 1680, Leuwenhock discovered the globular character of yeast, but did not attribute vital properties to it. Desmaziere, in 1826, furnished a more accurate account of this substance, but erred in describing it as infusorial, under the name of the mycoderma cerivisiæ, Desmaz. The credit of finally establishing the true nature and properties of the yeast plant is due to Cagnard Latour, who, a few years later proved that the conversion of sugar into alcohol and carbonic acid was caused by the presence and growth of the Torula cerivisiæ, a cryptogamic plant, existing only in the form of globules.

The nature of yeast is thus described by Blondeau.* There

* Journal of Pharmacie, t. 12, 3e. s. 1847.

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are two species of germs present in yeast, those of the Torula cerivisiæ and those of the Penicillium glaucum. The germs of the first (the true yeast plant) multiply with great rapidity, but never form stems or deviate from the globular condition. The P. glaucum also multiply at first in globules, but they soon extend themselves, unite and form an arborescent vegetation. The germs of the P. glaucum are much smaller (1-400th m. m.) than those of the T. cerivisiæ (1-100th m. m.) so that they can readily be separated by filtration, the P. glaucum passing through the filter while the larger globules of the Torula remain behind. The liquid that has passed *through* the filter, when placed in contact with sugar and water, develops the ramifications of the Penicillium glaucum, and the lactic acid fermentation commences. The globules remaining *upon* the filter when also placed in water and sugar, immediately produce the alcoholic fermentation. These remarks agree with the observations of Andral and Gavarret,* who found that "when yeast is mixed in a deep glass vessel with water, and allowed to remain at rest for some time, it separates into two portions, one of which rises to the top, whilst the other sinks to the bottom. That at the top, consists of the P. glaucum, and when placed in sugar and water induces the lactic fermentation. The powder collected at the bottom, is the yeast plant, and when placed in sugar and water determines the alcoholic fermentation at once." Yeast, as commonly obtained from the brewers, is a viscid, frothy, pasty mass, of a whitish yellow color, a sour smell like spoilt beer, and a bitter taste. When separated from the excess of fluid by pressure or drying, it becomes hard and brittle, still preserving its globular construction when viewed under the microscope, and if not exposed during the process to too high a heat, will still excite the alcoholic fermentation and is in fact an article of commerce particularly in Germany, under the name of "pressed yeast." The property of exciting fermentation, possessed either by fresh or by pressed yeast, is easily destroyed in many ways. A temperature approaching the boiling point, all powerful chemical agents, washing with alcohol, ether, and even (if long continued) by pure water itself, completely check its action. When yeast is rubbed upon a slab with a muller until the globules can no longer be

* Annales de Chim. et de Physique, 1843.

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seen, it loses its power of inducing the alcoholic fermentation, (Dr. Ludersdorf*), but according to Dr. Schmidt, of Dorpat,† will still cause the lactic fermentation in a suitable liquid. The bags containing pressed yeast, require much care in handling them; if they receive blows or are permitted to fall from a height, the part injured becomes soft and sticky, changes color, and loses its power of producing fermentation, and in a short time becomes putrid.‡ An extreme degree of cold does not appear to injure the properties of yeast. Cagnard Latour§ states that it still retains its fermentative power, after having been subjected to a temperature of —78° F. produced by admixture with solid carbonic acid. When yeast is triturated with sugar it does not dissolve as erroneously stated by Dobereiner,‖ but loses its opaque whiteness, and forms a yellowish semi-transparent liquid, in which the globules can still be readily detected by the microscope; they are, however, much smaller, and are incapable of inducing the alcoholic fermentation. The sugar is at the same time converted into uncrystallizable sugar. Yeast that has been treated with alcohol or ether, still preserves its appearance, but will not excite fermentation, the portions remaining undissolved consisting of the external cortical part of the globule, the skeleton, as it were, of the part. The living globule consists of a non-azotized insoluble sheath, possessing the chemical composition of cellulose, (C_{24} H_{21} O_{21}) and resisting the action of most solvents and chemical agents, and of an internal azotized substance, very similar in composition to protein. (Mulder.¶) According to the results obtained by Mitscherlich,** however, it differs essentially from the protein bodies in not containing any sulphur, the ashes consisting almost entirely of the phosphates of potassa, lime and magnesia. Schlosberger†† maintains, on the other hand, that sulphur *is* contained in small amount. The experiments of Mitscherlich appear worthy of the most dependence, having been apparently conducted with great care. In most of the

* Chemical Gazette, 1846.

† Liebeg's Handwörterbuch.

‡ Pharmaceutical Journal, 1849.

§ Annal. de chim. et de Physique, t. 68, 1838.

‖ Journal de Pharmacie, t. 1.

¶ Chem. Gazette, 1845, and Löwig's Organic Chemistry, Amer. edition.

** Chemical Gazette, 1846.

†† Pharmaceutical Journal, 1846.

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examinations of yeast, it is probable that the mixture of the Torula cerivisæ and of the Penicillium glaucum (the common yeast of the brewers) has been used, yielding, of course, inacurate results. Liebig observes that, when yeast is washed on a filter for a long time with cold distilled water, deprived of air, and always covered with a layer of water, a residue is finally obtained no longer capable of effecting a solution of sugar. The washing water, however, acquires this property, but soon loses it when exposed to the air. Probably the lactic fermentation is induced by the presence, in solution, of part of the protein contents of the globules. The alcoholic fermentation will not take place under these conditions. When yeast that has been boiled in water (to destroy its vitality) is exposed to the air in an open vessel, it acquires in 12 days a dull yellow color, and a sharp disagreeable odor, still retaining an acid reaction. The globules retain their usual appearance under the microscope, excepting that their surface becomes less uniform, somewhat resembling shagreen. Within a month and a half, the mass becomes greenish-brown, and has a strong odor, like Gruyere cheese, with a slight acid reaction. Even after five months' exposure to the air, it does not dry, but forms a brown earthy paste, and is covered with mould, has a putrid odor and alkaline reaction. When mixed with water, it appears under the microscope as being composed of an infinite number of small irregular points or black grains, mixed with very pale globules, still resembling those of yeast."* The mould here spoken of is formed by the well developed stems of the Penicillium glaucum, which always forms on yeast when exposed for a length of time to the air, as it does on most other nitrogenized bodies. The globules spoken of above are only the outer cellular envelop of the yeast globule, and are devoid of all its characteristic properties. The course of the fermentation and growth of the yeast plant, and consequent duration of the fermentation, depend very much upon the nature of the liquid in which it is placed. When yeast is mixed with a solution of sugar containing nitrogenous substances, (the protein bodies, etc.,) as for instance wort, or infusion of the malted grain, the fermentation soon sets in, proceeds vigorously, and is soon completed. The yeast is found to have increased eight times

* T. A. Quevenne. Jour. de Pharm., t. 24. 1838.

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over the quantity originally added; and this is the case, no matter how frequently repeated. But when, instead of a mixed solution of nitrogenized matter and sugar, a pure solution of sugar is taken, and mixed with two or three per cent. of yeast, the march of the phenomena is widely different. The action is vigorous at first, but soon slackens, and long before the sugar is exhausted, ceases entirely. If the weight of the yeast is accurately determined by drying a portion and weighing it, it will be found that during the brisk action the yeast increases in weight from 10 to 20 per cent., but decreases again as the fermentation proceeds, until at its close the weight is rather less than at the commencement of the experiment. (Quevenne.*)

During the progress of the alcoholic fermentation, the usual products are carbonic acid and alcohol, in the proportions of 44.8 and 47.2, but under certain circumstances other compounds appear, the formation of alcohol decreasing in a corresponding ratio; thus M. Filloy† remarks that "occasionally in the fermentation of molasses from the beet root sugar manufacture, when the molasses, either alkaline or acid, is mixed with five or six times its weight of water, and yeast added, the fermentation proceeds for a time, when nitrous acid suddenly appears, and the fermentation immediately ceases; this can be prevented by the addition to the molasses, diluted with twice its bulk of water, of 3 or 4 per cent. of sulphuric acid, and boiling it for a few minutes. Neither nitrous nor nitric acids exist in the syrups previously to fermentation, the nitrous acid being formed during the decomposition." This is corroborated by an observation made to the author by the manager of one of the largest distilleries of rum, from molasses, in New York, that frequently a gas is evolved from the fermenting vats that violently attacks the eyes, so that it is almost impossible to remain in the vicinity of the fermenting liquid. This, doubtless, is nitrous acid; and could probably be prevented by the same treatment with sulphuric acid. Yeast boiled in water and filtered, causes the viscous fermentation in a solution of sugar; a substance much resembling gum being produced with the evolution of two volumes of hydrogen with

* Jour. de Pharm., t. 28. 1841.

† Sur la production du Gas Nitreuse pendant la fermentation. Jour. de Pharm., t. 12, 1826.

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one volume of carbonic acid. The same effect is produced by water in which gluten has been boiled. (Defosses.*)

When an infusion of nutgall is added to a solution of sugar in alcoholic fermentation, it at first retards the action, but soon resumes its activity. When the fermentation is ended, the tannic acid is found to be converted into gallic acid. (Lacroque.†) Brandecke states that the alcoholic fermentation can be induced in a solution of grape sugar containing tartrate of ammonia, by the addition of the most discordant substances, such as clean straw, pure charcoal, asbestos, flowers of sulphur, etc. Dopping and Struve, and Trautscholk† repeated the experiments, but found no alcohol was formed, though gas was evolved. Bone-black digested with the solution and then removed by filtration, deprived the liquor of its fermenting property, itself acquiring it when retaining a little sugar. Trautscholk considers, therefore, that the effects produced were due to nitrogenous impurity in the sugar, removed by the bone-black. When yeast is successively placed in contact with three separate portions of sugar and water, it produces complete fermentation and removal of the sugar in the first liquid, but partial fermentation in the second, and scarcely any action whatever in the third. (Quevenne.) Liebig remarks† that, "according to the experiments of Thenard, 20 parts of yeast, after being completely fermented, left 13.7 parts of insoluble residue. This being again placed in contact with a fresh portion of sugar, was reduced to 10 parts. This latter residue was white, and presented all the properties of lignin. It exerted no further action on sugar.

Besides the admixture of the germs of the Penicillium glaucum in common yeast, Mitscherlich‡ thinks two species of yeast can be clearly distinguished; "these are the so-called "*Upper and Lower*" yeast of the (German) brewer's. The former increases at a temperature between 32° and 45° F.; this is the yeast of the Bavarian or Lager beer. The upper yeast grows at a temperature of 77° F. and is the best developed. The lower yeast consists of globules of different sizes, always separate; a small globule has never been observed attached to a

*Jour. de Pharm., t. 15. 1829.
†Liebig's Handwörterbuch.
‡Journal de Pharmacie, 1843.

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larger one; the little ones are always isolated. In the upper yeast, the small globules are seldom separate, being attached to the large ones, forming chaplets, etc., these globules augment by forming buds, (growth by gemmation.) The lower yeast, on the contrary, increases by little globules isolated in the liquid. In the old yeast, an envelop and granular contents can be readily perceived in the globules, and by compression these can be made to burst and discharge their contents." He thinks that in the lower yeast, the globules burst and each granule gives rise to a globule, being thus reproduced by spores.

The temperature most favorable to the alcoholic fermentation is from 68° to 73° F., the production of alcohol being then the greatest; the action being very slow and irregular at lower temperatures. If, on the other hand, the temperature becomes too high, very little alcohol is formed, although the evolution of carbonic acid continues. Quevenne* states that "when fermentation is induced in a solution by yeast, and the temperature very gradually raised, the evolution of gas becomes more rapid as the heat increases, until at 122°F. no alcohol whatever is formed, the amount produced decreasing in proportion as the heat approaches that point; the formation of gas does not then cease, however, but continues to be rapidly formed, even when the liquid reaches the boiling point, and so continues for three quarters of an hour or more, when it ceases forever. The product of this fermentation carried on at 212° F. is a substance soluble in water, (from which phosphate of lime separates,) insoluble in alcohol and ether, reddens litmus faintly, gives precipitates with perchloride of iron, acetates of lead and copper, prote-chloride of tin, nitrate of silver and tannin. Oxalate of ammonia scarcely troubles it; when heated, it burns without flame and leaves a hard voluminous charcoal, it contains nitrogen and the phosphates of lime, magnesia and of the alkalies. The substance resembles, but is not identical with humus, the residue formed by the decomposition of wood, etc., in the earth." The author has been informed by a gentleman possessing great experience in the processes of fermentation, that in the fermentation of molasses, if the temperature exceeds 90° F., the yield is so much decreased that the process becomes

*Journal de Pharmacie, t. 28, 1841.

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unprofitable. It is probably owing to this cause that so much uncertainty exists with regard to the advantageous management of the fermentation of grain, etc., some distillers being able to obtain a far greater product than others.

Alcoholic fermentation in common with all the varieties of decomposition and putrefaction, is retarded and even entirely prevented by many causes. Gay Lussac first directed attention to the fact, that when sound ripe grapes are passed up into a tube closed at top and filled with mercury, (the air having been perfectly removed by carbonic acid,) and then crushed without access of air, the juice (or must) thus obtained, remains unchanged and without any appearance of fermentation; but if a single bubble of oxygen gas is permitted to enter, the juice quickly undergoes the alcoholic fermentation.*

The presence of atmospheric air or oxygen appears essential to the first development, if not to the continuance of nearly all forms of decomposition. Thus milk placed in a close vessel which it entirely fills, and boiled therein to expel all remaining air, and then hermetically sealed, may be preserved sweet for an indefinite length of time. Meat, vegetables, and indeed, most organic substances can be kept in the same manner for years. Eggs lose their property of absorbing oxygen by immersion in milk of lime, the small amount of carbonic acid contained within the shell uniting with the solution of lime that penetrates into the pores of the shell and forming an insoluble carbonate, choking up all the apertures by which air can enter. Eggs have been found sweet after being kept in this manner over 300 years.† Wood sunk several feet beneath the surface of a peat bog is preserved from decay, the oxygen absorbed by the organic matter above it, not being able to reach it. The same cause explains the preservation of human bodies occasionally found in these bogs. A temperature below 32° or above 212° F., prevents the commencement and interrupts the progress of nearly all fermentations and putrefactions. Thus meat or vegetables, while frozen, will keep for centuries, merely losing by evaporation the water they contain if exposed to the air, but when placed in a suitable temperature, decomposition commences as usual. If milk, meat,

* E. Julia Fontenelle, Jour. de Pharm., 1823.
† Gmelin's Handbuch.

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grape juice, etc., are daily heated to 212° F. for a short time, fermentation will be indefinitely postponed.* M. Payen,† who was appointed by the French Government to examine into the cause of the sickness produced in the army by mouldy bread, found that the poisonous properties were caused by the presence of several forms of cryptogamia, principally the Oidium aurantiacum that attacked the bread, and destroyed the starch and other constituents of the flour in obtaining the elements for its nourishment; he found that the germs would again vegetate after being exposed to a temperature of 248° F., but were destroyed by a heat of 284° F. This is a remarkable instance of the tenacity of vegetable life.

The removal of water, either by desiccation or union with some substance that retains it with great force, (as sugar, salt, etc.) also prevents all change, as instanced in the preserving of fruits, salting of meat, drying of plants, fruits, meats and many other examples in domestic life. The action of some chemical agents belongs to the same class, but more generally their efficacy is due, either to their entering into combination with the organic substance, as in the coagulating of albumen by creasote, and probably in the union of the former with corrosive sublimate and other substances of that nature, or by the chemical used, acting as a poison upon the cryptogamic and infusorial organisms that are generally associated with putrefaction and fermentation.

Dr. John H. Brinton states in the Medical Examiner, July, 1854, that he succeeded in preserving, for over 60 days, fresh meat and anatomical specimens, such as muscular and nervous tissue, from all change excepting a slight bleaching of the muscles, simply by covering the specimen, by means of a brush, with a solution of gutta percha in benzole. The anatomical preparations were first injected with solution of chloride of zinc, or with arsenic. The meat received, however, no previous treatment. This process acts, in all probability, not simply by the exclusion of oxygen, but also by the impregnation of the tissue and consequent destruction of existing germs of infusoria, etc., by the vapor of benzole.

Mitscherlich‡ observes that those chemicals that destroy the life

*Gmelin's Handbuch.
†Annales de Chim. et de Physique, 1848.
‡Journal de Pharmacie, 1843.

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of the fungi, stop fermentation, while those that only destroy animal life are without action. The volatile oil of mustard completely prevents the fermentation of grape juice. The volatile oils of peppermint, aniseed, turpentine and many or all others are without effect.* The spoiling of wine, (la poulle or la graisse,) which is caused by or accompanied with the production of the Penicillium glaucum, is prevented by the addition of sulphurous acid; this is due, in Defosse's† opinion, simply to its presence as an inorganic acid, and not to its affinity for oxygen. If sulphuric acid is added instead, it decomposes the tartrate of potash present, setting tartaric acid free, being itself removed from the solution; this does not take place with sulphurous acid. Quevenne states that creasote, oil of turpentine, the mineral acids, oxalic and prussic acids, when added in the proportion of 6 *grs.* (?) to 20 grammes of sugar, all prevent fermentation. Arsenious acid, tannin, morphine and strychnine in the same proportions, exert no action. The alkalies rather retard it. Schwann‡ remarks that arsenious acid and corrosive sublimate stop putrefaction; extract of nux vomica stops the production of sulphuretted hydrogen and of infusoria, but does not prevent the occurrence of mould. Gilgenkrantz§ has observed a vegetation of the genus Leptomitus or Hygrocrosis growing in a solution of arsenious acid, and another species in solution of corrosive sublimate. These poisons consequently cannot prove injurious to the lower forms of vegetable life.

Helmholtz‖ instituted a number of experiments upon the transference of the fermentative influence through membranes, etc. When fresh grape juice is placed in a test tube, the mouth tied over with bladder, and immersed with the bladder end downwards in grape juice in fermentation, the fluid in the tube remained unaltered, except acquiring by endosmose a slight odor and taste of the external liquid. Meat and water, similarly treated and immersed in a putrefying solution, acquired a putrid odor, with development of CO_2 and SH.; but instead of dis-

*E. Julia Fontenelle, Jour. de Pharm., 1823.
†Jour. de Pharm., 1829.
‡Poggendorf's Ann. 41, and Gmelin's Handbuch.
§Jour. de Pharm., 1837.
‖Gmelin's Handbuch.

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solving to a paste, as meat does under usual conditions, it preserved its structure, and became firmer than boiled albumen. Gelatine likewise appeared putrid, but without becoming cloudy. In none of these experiments was there any formation of mould or of infusoria. Löwig very properly remarks upon these investigations, that the apparent decomposition was not real, since there was no structural change, and that the smell and the presence of gases was entirely due to the endosmose through the membrane, no putrid change or fermentation having really taken place. Schwann* found that, when meat and water are boiled in a flask for some time and only air permitted to enter that has been passed through a red hot glass tube, neither infusoria nor mould occurred, and on opening the flask its contents were unchanged by putrefaction or fermentation; the same result was obtained with solution of gelatine and with grape juice, etc. On subsequent exposure to the air, infusoria soon appeared and fermentation commenced. Schultze† obtained precisely similar results by passing air through a solution of caustic potassa and through concentrated sulphuric acid, previously to its admittance into the flask, containing the boiled meat and water. His experiments were directed more particularly to the development of infusoria.

Schröder and Von Dusch‡ have lately given the details of experiments tried by them upon the effects produced by filtered air, upon fermentation, etc. They have established the fact, "that when air is passed through a tube filled with raw cotton, moderately compressed, it becomes incapable of inducing fermentation or putrefaction in substances that would rapidly undergo these changes if common air was substituted. Thus, meat, broth, wort, etc., were preserved for weeks in flasks, in which they were boiled, a constant current of filtered air being drawn through the flasks. No change of any kind was perceptible, even in summer weather. When milk was tried in the same manner, however, it became sour nearly as soon as in the open air, thus indicating an essential difference in the principles involved in the respective decompositions." The author

* Poggendorf's Ann. 41, and Gmelin's Handbuch.

† Edinburgh Philosophical Journal, 1837.

‡ Liebig's Annalen, 1854, and Medical Examiner, June, 1854.

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has himself repeated the experiment of preserving boiled meat and water in a flask, having an aperture of at least one inch diameter, closed merely with a plug of raw cotton, part of the cotton being formed into a ball, surrounding the neck of the flask and confined with a thread, to prevent the passage of air between the sides of the aperture and the plug of cotton. Meat broth, thus prepared, was found to be perfectly sweet and unchanged in every respect, after the lapse of six weeks in the months of June and July; a portion of the same broth placed in a bottle with a glass stopper, became so offensive on the third day as to require its removal.

These results, above mentioned, appearing to establish the theory, that all fermentations, etc., are induced by the presence in the air of the germs of organic life, led the author to make the following experiments, with the two-fold purpose; 1st, of deciding whether this property possessed by cotton was peculiar to it alone and due to its structural arrangement, or whether it was common to it and to all other finely divided substances; and 2d, the hope of detecting in the air these invisible germs, or at least of obtaining satisfactory proof of their existence. The apparatus made use of was essentially that of Schröder and Von Dusch, with merely such alterations as the purposes in view required. It consisted of the flask *a*, of about one quart capacity, in which was placed the liquid experimented on, closed tightly with a cork, through which passed two glass tubes, one connecting with the five gallon tin cannister *b*, the communication with which could be intercepted at pleasure by a stop-cock, the other leading to the lower end of the filter tube *c*, a glass tube, $1\frac{1}{4}$ inches in diameter and 18 inches long, closed at both ends by corks; a diaphragm of fine copper wire gauze was placed a little above the lower cork; through the upper cork was inserted the bent limb of the drying tube *d*, containing fragments of dried chloride of calcium, the other end of the drying tube, connected with the nitrogen bulb or washing apparatus *e*, containing about $\frac{1}{4}$ ounce of water; from this a tube passed to the bell glass *f*, through the cork at top, through which also passed another straight tube *k*, reaching to the centre of the bell glass, for the purpose of admitting air. The bell glass was closed at the bottom by a plate of ground glass *g*, supported upon a sliding support *h*,

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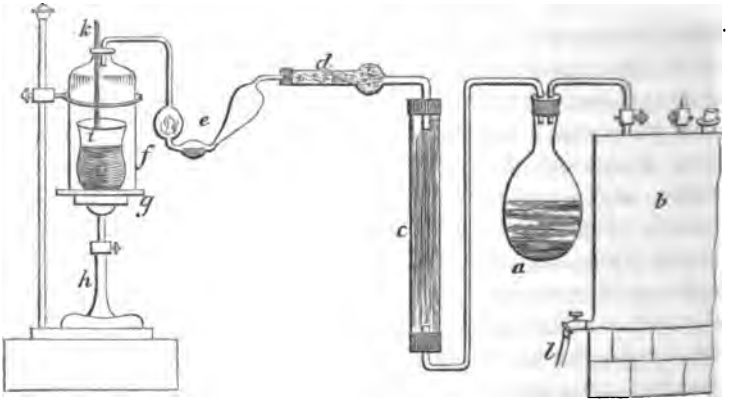
kept at any desired elevation by a set screw; within the bell glass was placed a beaker glass *i*, resting upon the glass plate *g*, so that it could be removed at pleasure. Into this beaker glass was poured an infusion of malt, (wort,) similar to that in the flask *a*. The tin cannister *b*, was provided with an opening through which it could be filled and capable of being closed air tight; at the bottom was a discharge cock *l*, leading into a suitable receiver. It is evident that, if the joints of the apparatus are all closed air tight, (the cannister being filled with water,) and the cock *l* opened to permit the escape of the water, a current of air must enter through the tube *k*, into the bell glass *f*, and from thence pass through the washing tube *e*, the drying tube *d*, the filter tube *c*, and the flask *a*, containing the experimental liquid, and finally into the cannister *b*, supplying the void created by the escape of the water. The substance selected for



the filtering medium was pure white sugar, in grains of the size of fine sand, all coarser and finer particles being removed by sieves of different sizes. It was chosen as being better adapted to this purpose than nearly any other substance, being readily obtained pure and clean, possessing an uniform composition, ready solubility and absence of color; it could also be heated to 212° F. without injury to its physical properties. The washing tube and water were used to prevent any organic matter, dust, etc., being mixed with the sugar in the filter tube, the presence of which might lead to errors in the subsequent examinations. The air was dried after leaving the water by the chloride of cal-

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cium, in order that no possibility might exist of the germination of the sporules favored by the moisture, that would otherwise be carried into the sugar, and which, if it had taken place, might cause them to vegetate, and thus transmit the germs from particle to particle, until finally carried over by the air into the flask *a*.

On the 30th Nov., 1854, ¾ pint of warm ale wort, fresh from the brewery, was put into the experimental flask *a*, and about six ounces of the same into the beaker glass *i*, about the same quantity also poured into a bottle and left exposed to the air. The filter tube was now filled with the sugar, previously heated in an air bath to 212° for 30 minutes. The joints being now made air tight, the contents of the flask *a* were brought into ebullition, which was continued until the tubes leading to the filter and to the cannister were heated throughout. The stop-cock *l* was now opened, and the water permitted to escape drop by drop, the air entering through the tube *k*, and passing through the whole apparatus to replace it. The water was allowed to run out at the rate of four gallons in 24 hours, being renewed once a day; of course the same quantity of air would pass through the flask *a* within that time; the temperature of the room 65° F. On the 4th of December the liquid in the open bottle was covered with bubbles, and a very thin pellicle formed on the surface. The contents of the flask *a*, and of the beaker glass *i*, remained unaltered. Dec. 5th. The liquid in the beaker glass showed a little mould on the surface. Dec. 6th. The mould was very perceptible in the beaker glass; a few globules were visible in the liquid when under the microscope. Dec. 9th. The liquid in the beaker glass had apparently passed through the alcoholic fermentation and become very acid, smelling strongly of vinegar; it was full of vibriones and covered with a thick mould. The experiment flask *a* remained perfectly clear and with no appearance of mould or fermentation. The air was drawn constantly through the apparatus, in the manner described, from the 30th of November until the 23d of December. It was then allowed to remain at rest until the 25th of January, 1855, no appearance of decomposition having occurred in the flask *a*; the washing and drying tubes *e* and *d* were disconnected, so that the air entered from the atmosphere immediately into the filter tube; this was done to make certain that the effects produced were not caused by the

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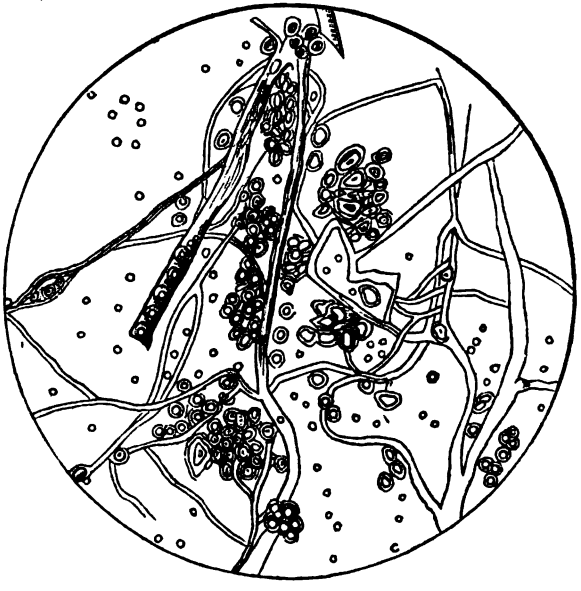
water or by the chloride of calcium. The air was now again drawn through as before, on alternate days, until February 26th, when the operation was concluded. On examining the water in the washing vessel *e*, it was found to be reduced by evaporation to about one drachm; it was perfectly colorless and transparent; suspended in it, however, there was a flocculent mass of the size of a pea, colorless and resembling very fine raw cotton; it was possessed of great tenacity, although of the most delicate structure. Under the microscope, the liquid was found to be filled with extremely minute circular globules, requiring great attention to distinguish them, resembling the globules of the Penicillium glaucum, although much smaller. The flocculent mass above mentioned was resolved into a vegetation of the utmost beauty and regularity, consisting of extremely delicate fibres interlacing with each other and covered in parts with sporules and globules. The plant resembled somewhat the Penicillium glaucum, but was far more delicate in its structure, and did not appear composed of globules extended longitudinally, forming cells, as is the case in the latter.



When a portion of the clear washing liquid was placed in a bottle with 10 per cent. of fresh sugar, a new flocculent deposit

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formed in a few days, possessing the general characteristics of that above described. A portion of the sugar from the top of the filter was next examined, but the most rigid scrutiny failed to detect any organic structure, either in the sugar in grains or in the solution obtained by dissolving it in 10 times its weight of distilled water. Another portion was then dissolved in the same amount of water, and placed aside for several weeks, but no trace of globules or other organisms could be found. The examinations and drawing were all made with a Powel & Leland's microscope, $\frac{1}{8}$ in. objective, and highest power of eye piece, giving a magnifying power of about 800 diameters.

When the flask *a* was opened, on the 26th of February, it presented all the properties of the original wort, being perfectly sweet, having a very slight acid reaction, and the odor and taste of fresh wort. On being subjected to distillation, the distillate obtained was neutral, possessed the character and smell of fresh wort, and, by treatment with bichromate of potash and sulphuric acid, proved the entire absence of alcohol. During the whole time this experiment was proceeding, the temperature was never below 65°, sometimes 75°, averaging over 70°.

At the completion of this experiment, a small clean bottle was filled with the still sweet wort from the flash *a*, and tightly corked. The next day it was found covered with froth and in brisk fermentation. The remaining contents of the flask were left therein, and closed with the cork through which the two glass tubes passed, thus affording an uninterrupted communication with the atmosphere through the tubes. At the end of the week the liquid was but little changed, having merely a musty smell; no mould was perceptible. The flask was now agitated, to expel the air contained therein and replace it with fresh air; the next day it was found covered with a thick growth of Penicillium glaucum, was strongly acid, had a putrid odor, and underwent rapid putrefaction.

On the 23d of November, one week previous to the above mentioned experiments, a portion of wort was placed in the apparatus, arranged as just described, the conditions being exactly the same as in the last experiment, excepting that the sugar was not heated previously to being placed in the filter tube. On the fourth day of the operation fermentation commenced, alike in

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the beaker glass and in the experimental flask *a*; a thick formation of mould covered the liquid; the process was then interrupted and commenced anew as previously described.

This result clearly indicates that there is contained in the sugar, as met with in commerce, a substance capable of being taken up by a current of air passing over or through it, and possessing the property, while thus suspended or dissolved in the air, of producing fermentation and the growth of mould in fresh wort; this property, however, being destroyed by a temperature of 212° F. The author believes that sugar possesses this property in common with all matter, organic and inorganic, that is not destructive to vitality. The action of cotton is due, therefore, simply to its finely divided condition, and not to any peculiarity in form or composition. The germs floating in the air being deposited or taken up again, precisely as finely-divided dust would be under the same conditions.

It is not probable that the globules found in the washing water are the germs of the plants causing fermentation, etc. It is more likely that they are the partially-developed globules, having a magnitude many times greater than the actual germ that is suspended in the air and distributed through all nature. The cryptogamia found in their full development, and the innumerable globules present had doubtless been nourished and attained their present size by the volatile matters given off by the fermenting liquids in the beaker glass *i*, and a portion of which must have been absorbed in theirpassage through the water. The true original germs are without doubt contained in the sugar in the filter, but being absolutely without nitrogeneous materials for their growth, even when the sugar is in solution, they remain in their pristine state.

The facts and experiments related in the preceding pages constitute the substance of nearly all that is known concerning fermentation and putrefaction, the study of which could cast any light upon the principles involved in these decompositions. Many experiments and observations have of course been made, that are not alluded to here, but none that the author could meet with have been omitted, that, in his opinion, could contribute to the knowledge of the subject or to the support of any theory.

Various views have been held by distinguished writers, upon

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the causes inducing fermentation and putrefaction. The only theories that need occupy our attention, however, are:—

1. The doctrine of catalysis, promulgated by Berzelius.

2. The doctrine of atomic disturbance, promulgated by Liebig.

And 3d. The doctrine of the agency of vital organisms in the forms of infusoria and cryptogamia, proposed by Schwann.

To which may be added the influence of ozone, as suggested by several writers, but which may be dismissed with merely the remark that it can only produce effects greater in degree, but similar in kind to common oxygen, since the presence of oxidizable matter instantly causes its disappearance, and the oxidation of the substance submitted to its influence. It is, doubtless, an important agent in atmospherical purification, but scarcely so in the class of decompositions now under notice.

The doctrine of catalysis consists in the assertion, that certain chemical changes are induced in bodies by the mere presence of other substances, these latter substances either undergoing no change whatever, or suffering a decomposition similar in kind to that of the other body present; as, for instance, the decomposition of peroxide of hydrogen by oxide of silver, the silver being reduced to the metallic state, with the formation of water and evolution of oxygen, both from the oxide of silver and the peroxide of hydrogen. The same effect being produced by the addition of finely divided metallic substances and by many oxides which do not suffer decomposition like oxide of silver. No satisfactory explanation has as yet been given of the cause of these peculiar changes, but there can be but little doubt that they are owing to the formation and subsequent decomposition of compounds, whose elements are held together by affinities so nicely balanced that the slightest cause is sufficient to disturb them. At all events, the doctrine of catalysis does not in any way assist us, since it merely gives a name to the phenomena, and substitutes a *word* in place of an *explanation*, (Gmelin.) It is unnecessary therefore to dwell longer upon this point.

The theory advocated by Liebig is substantially, that a ferment, or substance in fermentation, has its atoms in a state of change or motion, and that when this ferment is placed in contact with a body incapable of itself of entering into decomposition, like sugar for instance, it absorbs oxygen and imparts its state of molecular

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change to the sugar; those elements of the ferment being in motion, transmit a mechanical impulse to those of the body in contact with it, resulting in the disruption of the original structure and the formation of new compounds, as alcohol and carbonic acid. This is evidently the catalytic doctrine with the addition of the theory of a mechanical impulse to explain its modus operandi. Gmelin very correctly observes, that it is a mere *assumption*, the fact of a mechanical impulse communicated from the atoms of ferment to those of the sugar, without any *demonstration* whatever, and that if the possibility of this transference of motion be granted, it should according to analogy displace the total atom of sugar and not merely a portion of its elements. He further remarks that if mechanical disturbance is the cause of these changes, they should be, also, produced by agitation with sand or other finely divided substances; still more so by the decomposition, by sulphuric acid and zinc, of water in which sugar is dissolved, and also of the carbonated alkalies by acids in the same solution, in none of which cases is there the slightest disturbance of the atomic structure of the sugar (Gmelin's Handbuch.) It may be added that the experiments of Schwann, Schultze, Helmholtz, and Schröder and Von Dusch, are totally irreconcilable with such a theory.

The assumed facts upon which the doctrine of catalysis depended for its illustrations, are one by one being slowly removed by the advancement of science, and it will doubtless shortly be placed by common consent in the same category with the theories of Phlogiston, of the transmutation of metals, and with various others that have uselessly occupied the minds of men in all ages. Thus, the action of finely divided platinum in causing the conversion of alcohol into acetic acid, the decomposition of alcohol by sulphuric acid, into ether and water, and the fact that an alloy of copper, nickel and zinc is entirely soluble in diluted sulphuric acid (Liebig*) were placed among the most prominent examples of this law. But it has now been known for some time that the action of platinum black is due to its property of condensing oxygen and other gases within its pores, thus increasing the affinities of oxygen for many other substances, a

* Annales de Chim. et de Physique, 1839.

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process of which we do not know the rationale it is true, but the same may be said of nearly all chemical action. The conversion of alcohol into ether is at least as well explained by the formation and decomposition of sulphovinic acid, and certainly acquires no elucidation from the catalysis doctrine. It is within the last few weeks that Mohr's* paper upon the determination of copper has appeared, wherein he states that copper precipitated in the pulverulent form from an acid solution by iron, is soluble in a dilute solution of sulphuric acid, obtaining oxygen from the acid; its solubility being due to the state of its fine division; thus entirely doing away with the value of an experiment that was dwelt upon with peculiar emphasis by Liebig, as illustrating the action of this theory.

The views advocated by Schwann are much more in accordance with the results obtained of late by many investigators, and explain in the most satisfactory manner many points that are utterly at variance with the necessary deductions from the previous theories. In fact it may be considered as proved, *that the principal phenomena of putrefaction and fermentation are due to the presence in the air of the germs of infusoria and cryptogamia, which by their growth produce those changes with which we are familiar.* The objections made by Liebig to this theory are as follows:

1st. That the yeast of beer has not the composition of actual fungi, but of that of gluten. 2d. That it is not explained in what manner these microscopic beings produce these changes. 3d. If fermentation is produced by the growth of vegetation, it should not take place in a solution of pure sugar when yeast is added, since it contains no nitrogen or other elements essential to the plant. 4th. Fermentation is induced in solution of sugar by caseine or emulsion of almonds, without the production of vegetation. 5th. In a thousand places putrefaction takes place in cheese, blood, urine, etc. without the production of infusoria.†

To these questions the following answers may be given:

1st. That it is unimportant whether the composition of the yeast plant resembles that of fungi or not, since the question is not whether yeast is a fungus, but whether yeast is a plant.

* Liebig's Annalen, bd. 97, s. 392.

† Gmelin's Handbuch.

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We *positively know* that the yeast globule *is* a plant, possessing a cellular structure, consisting of an external envelope resembling lignin, and of an azotized internal substance. 2d. That we are equally ignorant of the manner in which the inorganic constituents of the soil are converted into blooming flowers, yet, nevertheless, this conversion *does* take place. 3d. That fermentation only occurs in a solution of pure sugar when yeast *is* added, and then only in proportion to its amount. When the vitality of the yeast globule is exhausted, its remains serve as a soil or means of nourishment to a new crop of the plants, so far as they are capable of decomposing the structural arrangement of the dead globule, in the same manner that grass grows continually on the so called perpetual meadows, where the crop is never removed, but suffered to rot where it grew; but as the yeast globule is not entirely decomposed, the means of nourishment soon become exhausted and the growth ceases, and with it the fermentation ends. This view is supported by the fact, that yeast placed in a solution containing all the elements for its growth, as in worts for instance, increases eight fold, but when in pure sugar, weighs rather less at the end than at the commencement of the process. 4th. That caseine, etc. only induces fermentation when it has been placed in the air long enough to have the germs of these organisms deposited upon it, and even if exposed to the air, no change takes place if the air has previously been heated, passed through powerful chemical reagents, or filtered through cotton, sugar, etc. The souring of milk is an exception to this and requires a separate explanation. In every case excepting milk, globules of cryptogamia or infusoria *have* been found. 5th. Is sufficiently answered by the above remarks.

After a careful consideration of the various facts connected with this subject, the author is of opinion that these phenomena should be distributed into three classes; the action in each being distinct in its causes and manifestations. These are, 1st, eremacausis; restricting this term to those decompositions that are produced simply by oxidation without the presence of any substance, either organic or vital, other than those immediately concerned in the decomposition. The oxidation of oil, the rotting of wood under certain conditions, the formation of acetic acid from alcohol by means of platinum sponge, and many other

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instances, precisely similar in the principles involved to the rusting of a metal, or the slow oxidation of phosphorus, require no other explanation than is needed in all chemical processes.

2d. Under this head should be placed those changes that are induced in certain bodies by the presence of another substance, it determining the fixation of water and the formation of new compounds, as in the conversion of starch into grape sugar by diastase, the decomposition of amygdalin, etc. These may be looked upon simply as instances of double decomposition, in which the gluten or emulsin, parts with one or more elements of water to the body with which it is in contact, which it again assumes, when needed, from the water present in the solution; the gluten playing a part with the water similar to that performed by the oxide of nitrogen in the oil of vitriol chamber, or by acetic acid, in the old or Dutch method of manufacturing white lead. These decompositions should not be grouped with fermentation or putrefaction, but be considered, like eremacausis, as examples of mere chemical affinity.

3d. The last division of this classification contains all the processes of fermentation and putrefaction that are connected with the growth of cryptogamia or infusoria, and includes all those cases not embraced under the previous headings, in which the decomposition is produced by the presence of a fermenting or putrefying substance, by means of the germs of vegetation or animal life contained therein, or in the air, fluids, vessels, or other materials used. Those conditions, therefore, that destroy the vitality of the plant or animal, or remove it from the sphere of action, necessarily interrupt the decomposition by removing its cause, thus explaining the effects of heat, chemical agents, and the exclusion, heating and filtration of air. The immediate action exerted by the living germ in effecting decomposition is of course unknown to us; we can only state, that the affinity uniting the elements in combination is so slight, that many disturbing causes are sufficient to overturn the balance and resolve the compound, not into its elements, but into other groups having stability enough to remain permanent under such conditions. The plant needing part of the elements present in solution, perhaps the elements of water, withdraws them from the

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organic substance, in which they exist less firmly united than in water; the nascent combinations probably having the power to assimilate again the water from the medium present, either as water or its elements, thus furnishing the products of fermentation. This may be one reason why fermentation ceases with the absence of water.

Our knowledge of the subject is too insufficient to enable us, in all cases, to decide to which class certain decompositions belong, or whether, in some instances, all three of the above processes may not simultaneously exist. Thus, the souring of milk, when boiled and exposed to filtered air, may depend either upon the caseine existing in it, in a state similar to that of gluten in malted grain, only needing the absorption of oxygen to render it active, or from fresh milk containing germs, which like those of the Oidium aurantiacum, require a heat above the boiling point to destroy.

It is sometimes objected to this theory of vital action, that the existence of these germs in the air is neither proved nor probable, since it is unlikely that the air should contain such vast quantities as must be present if diffused in the manner indicated. To this it may be answered, that certain organic substances invariably are found covered with the same forms of mould and containing the same infusoria, when exposed for but a short time to the air; and since the doctrine of spontaneous generation has been proved, as Carpenter states, to be "without any claim whatever to be received as even a possible hypothesis," it must follow that all air holds in suspension the germs of these cryptogamia and infusoria, and if *this* is admitted the rest cannot be rejected. "John Marshall has detected the sporules of Uredo segetis near the apex of every grain, even in very fine samples of wheat, and which only wanted the influence of a cold and wet season, producing unhealthy action in the part, to develope themselves."* Carpenter further states, that "it is well remarked by Fries on this point, that the sporules are in such vast numbers, (in a single individual of Reticularia maxima he has estimated that 10 millions must be present,) are so subtle, (being invisible to the naked eye, except when collected in masses and appearing as a thin smoke, when diffused in vast multitudes through the air,)

* Carpenter's General Physiology.

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are so light, (being raised perhaps by evaporation into the air, and are dispered in so many ways by winds, insects, elasticity, etc.,) that it is difficult to conceive a place from which they can be excluded."

In conclusion, the author earnestly calls the attention of *Physicians especially* to this subject, believing that it is only by the study of the phenomena of putrefaction, and by closely watching the varied appearances presented in the dissolution of organic remains, that the mystery and ignorance that now attend upon the causes of malaria, miasmatic and contagious influences, can ever be dissipated, and man placed in a position to grapple with what has ever been the scourge of his race.

Philadelphia, April 16th, 1855.

On Quinoidine in the Treatment of Intermittent Fever.

By J. DaCosta, M. D.

Amongst the preparations of bark that have occasionally been used for the cure of intermittent fever, we find quinoidine, or the so-called "amorphous quinia" mentioned.* Yet, although the price of this article is considerably less than that of the favored salts of its twin-alkaloid, quinia, it has met with but little medical notice or employ; the publication, therefore, of upwards of fifty cases treated successfully with quinoidine, may prove, the writer hopes, not uninteresting nor valueless to some of the readers of this journal.

Chinoidinia, or "quinoidine," was first brought into notice by the supposed discovery of Sertürner of a new alkaloid, obtained by treating acidulous extracts of cinchona bark by alkalies. This alkaloid he found associated with quinia and cinchonia, and he procured it in large quantities from the resinous substance remaining after the crystallization of sulphate of quinia, which

* To guard against error, it may be well to state that quinoidine is an entirely different substance from the quinidine, the sulphate of which has been recently discovered to possess antiperiodic properties. (See Med. Examiner, Vol. x.)

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mass itself had previously been employed as an antiperiodic in this city, under the name of "extract of quinine." (See U. S. Dispensatory, 10th edition, p. 1171.)

Several chemists, induced by Sertürner's description of the new alkaloid, endeavored to procure it in its isolated state, as he stated he had done, but they were not successful; and the opinion, strengthened by the experiments of MM. Delondre, Henry and Geiger, soon gained ground, that the supposed new alkaloid discovered in the mother liquor after the crystallization of sulphate of quinia, was in reality quinia and cinchonia, in union with a resinous substance, which impeded their crystallization. Liebig,* who analyzed several samples of quinoidine, found a considerable proportion of it to possess the chemical characters of a true organic base, and to have the same atomic weight and composition as ordinary quinine, to which he conceived it to bear the same relation that uncrystalline sugar does to crystalline. The resinous alkaloid obtained by evaporating an ethereal solution of the flakes, (precipitated from an acid solution by ammonia, and alkaline carbonates,) he termed, therefore, "amorphous quinia," and this view of the nature of quinoidine seemed to be confirmed by the statement of Winkler, that ordinary quinia may be rendered amorphous by the action of acids, and by the experiments of Roder, (Chem. Gaz., 1848), who obtained from the amorphous quinia, quinia in a crystalline state. Shortly after the publication of Liebig's analysis, a patent, probably through his influence, was granted to Mr. Bullock, of London, for the manufacture of the "amorphous quinia," or this new extract from the quinoidine. The process, however, by which the latter was thus entirely deprived of the resin, and reduced to "amorphous quinia," rendered this an extremely expensive preparation, nor was it found to differ from the ordinary quinoidine of commerce, except in its being more highly purified.† Later analyses than those of Liebig have tended to confirm the fact that quinoidine is in reality the amorphous alkaloid quinia, in union with a resinous substance, and capable of forming salts and acids; yet there are some chemists who consider it to be a

* London Lancet, May 23, 1846.

† See Mr. Redwood's paper, Pharmaceutical Journal, vol. vi. p. 131.

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compound of quinia, cinchonia, and quinidia, and others again who still regard its true composition as unascertained.*

Quinoidine sufficiently pure for medicinal purposes, is prepared in this city by several eminent chemists, (especially, we believe, by Messrs. Powers & Weightman,) by precipitation, by means of alkalies, from the acidulous solution of the residue left after the crystallization of the sulphate of quinia. The precipitate thus formed is dissolved in alcohol, and from this solution, subsequently, the quinoidine is obtained. The amount of this alkaloid furnished by different barks varies. Thus, the red bark, which contains less quinia than the Calisaya, yields a larger amount of quinoidine. Mr. Weightman recently informed the writer that the ordinary Calisaya bark furnishes, in proportion to every 100 parts of quinia, only about 10 to 20 of quinoidine, while the New Granada barks yield in proportion to the quinine they contain, about 40 per cent. of the quinoidine.

Quinoidine, when pure, is soluble in alcohol and sulphuric acid, from which it may again be precipitated without loss of weight. Its color is that of an ordinary extract; it is almost entirely devoid of taste. It has been occasionally medicinally employed, especially in some parts of Continental Europe, and enjoyed a high reputation as an antiperiodic in an epidemic that occurred near Berlin, (see London Lancet, 1846,) so much so, that the peasants came from fifty miles distant to procure certain "fever drops," which consisted of the medicine in question dissolved in sulphuric acid. In this country quinoidine, owing, perhaps, to its liability to be adulterated, has been but little employed, excepting by the venders of quack medicines, whose nostrums, in many instances, owe their efficacy to the quinoidine they contain.

The therapeutical effect of quinoidine, as far as the writer has observed them, are very nearly those of the ordinary sulphate of quinia. In doses two thirds larger than those of the latter, he succeeded perfectly in checking intermittent fever; but it was never noted to give rise to the headache, nor the ringing and buzzing in the ears, nor to the sickness at the stomach, which so frequently attend the administration of the sulphate of quinia, or of the other ordinary preparations of bark. It was

*Ibid, vol. xi. 1850.

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sometimes given in doses of 40 grains, without the slightest inconvenience to the patient resulting from it, and in no case, with the exception of one subjoined below (see case 32,) did it fail in checking the periodical returns of the paroxysms. In a few instances, indeed, it proved successful when sulphate of quinia had been previously administered without result. As a tonic, it seems to possess the same advantages as any of the other preparations of bark. Age does not constitute an objection to its use, for it was employed with equal advantage in the very young and the very old.*

The patients for whom quinoidine was prescribed, were mostly Irish of the lower classes, who applied for advice to the Moyamensing House of Industry. In many, the intermittent fever had lasted for some length of time; it was mostly of the quotidian type. No cathartic was ordered previous to the administration of the medicine, which was given in pills of two grains each, or else dissolved in dilute aromatic sulphuric acid. The average dose required to arrest the chill in an adult seemed to be about 20 grains, six grains of which were, as a general rule, ordered shortly before the expected paroxysm, whilst the rest was taken during the intermission. If the bowels were constipated, a little of the extract of colycinth was with advantage joined to the quinoidine. After the chills were checked, the remedy was in some cases continued, in smaller doses; yet as patients, when relieved, are not always willing to return to a public institution, it was sometimes impossible to persevere with the treatment, and the disease then generally reappeared after the lapse of a week or two. No other medicine was administered in any of the cases noted, unless specially stated in the subjoined table.

* In proof of the efficacy of this medicine, the writer is happy to be able to add the testimony of one of the gentlemen connected with the chemical works of Messrs. Powers & Weightman on the falls of the Schuylkill. He informed him, that in all the cases of intermittent fever which occur there among the workmen and their families, quinoidine had been used with perfect success, and that the effect was always permanent, which could be easily ascertained, as most of them were under his daily inspection. The medicine was even deemed more efficacious than the other preparations of bark.

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	Name.	Age	Type of Fever.	Date when first seen.	Dose of medicine which arrested chill.	Return of disease.	Remarks.
1	Benjamin Noble	14	quotidian	Sept. 6	12 grs.	Sept. 22	Dose was then repeated; no return of chill since.
2	William Young	38	tertian	" 14	22 "	" 20	Had a slight chill on 20th, for which 20 grs. were given. March 1st, saw him with intermittent fever, which he had contracted from fresh exposure; yielded again to 20 grs. of quinoidine.
3	William Auscher	38	quotidian	" 18	20 "	None.	
4	W. Hall	29	tertian	" 18	20 "	"	The first paroxysm was modified, but not entirely arrested by 20 grs., as he had a chill on the 22d; prescription repeated; no return since.
5	Harriet Keller	15	quotidian	" 18	26 "	"	
6	John Nesbit	27	tertian	" 19	30 "	"	Disease of long standing; 30 grs. arrested paroxysm on expected day. Slight chill a few days afterwards; twenty grs. administered, since which time no return.
7	Eliza Doheny	12	quotidian	" 20	20 "	"	
8	John Finley	30	quotidian	" 20	20 "	"	
9	Isaac Burns	50	tertian	" 22	20 "	"	
10	Augustus Henry		tertian	" 22	20 "	"	
11	Charles Gowin	5	tertian	" 24	10 "	"	
12	T. Erny	25	tertian	" 26	20 "	"	
13	Barnet Henely	35	quotidian	" 27	30 "	"	Pills of quinoidine were given as a tonic for some time after chill was arrested.
14	Margaret Vaughen	21	quotidian	" 29	20 "	"	
15	W. Thompson	40	quotidian	Oct. 3	40 "	"	
16	William Bacon	35	quotidian	" 3	20 "	"	
17	Louisa Thompson	55	quotidian	" 6	20 "	"	
18	Benjamin Buchner	24	quotidian	" 18	40 "	"	In him the disease had been of long duration; he had previously taken sulphate of quinia.
19	Patrick McElham	20	quotidian	Nov. 8	20 "	"	
20	Patrick Smith	22	quotidian	" 8	20 "	"	
21	M. Gibson	20	quotidian	" 12	20 "	"	
22	Michael Brown	17	tertian	" 12	20 "	Nov. 26	The chills returned subsequently several times at intervals of two weeks, but always yielded to 20 grs. of quinoidine. Since 29th of Jan. he has taken quinoidine grs. 2 t. d. as a tonic. No return of chill since.
23	Edward Coroll	28	tertian	" 13	16 "	None.	This patient had, on the 11th, before I saw him, taken 20 grs. of quinoidine, which had not arrested the chill.
24	John Cushen	23	tertian	" 13	20 "	"	Medicine was repeated on the 15th; no return.
25	John McCarty	23	quotidian	" 11	20 "	Nov. 18	On Nov. 11th he had a slight chill, for which he took 20 grs. more of quinoidine. Since that time no return.
26	Thomas Heley	28	quotidian	" 15	20 "	None.	

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	Name.	Age	Type of Fever.	Date when first seen.	Dose of medicine which arrested chill.	Return of disease.	Remarks.
27	Wm. Fitzgerald	24	tertian	Nov. 15	20 grs.	Jan. 25	This patient continued taking quinoidine for about a week after arrest of chill; on the 25th of Jan. had a return of the disease, which yielded, however, readily to 20 grs. of quinoidine; since then no return.
28	Jane Ann Kennedy	17	quotidian	" 18	16 "	None.	Medicine was repeated on the 19th, and continued until the 20th.
29	Daniel Mack	13	quotidian	" 20	12 "	"	
30	Ann Cumming	44	tertian	" 22	16 "	"	
31	Ann Eige	5	quotidian	" 23	10 "	Dec. 20	The 10 grs. checked the chills, but they returned a few days afterwards, yielding, however, again to 10 grs. of quinoidine. On Dec. 20, chills returned. The patient was directed to take 4 grs. of sulphate of quinia daily for two weeks. On the 17th of January saw the patient. The chills had not been stopped, but had re-occurred from time to time. Ordered 40 grs. of quinoidine in 20 pills, 4 daily. After medicine had been taken for 3 days, chills stopped; no return since.
32	Therese Eige	40	tertian	" 25	20 "	" 7	This patient had had, when first seen, chills for 8 or 9 months. On Nov. 25, 10 grs. of sulphate of cinchona and 10 of sulph. of quinia were administered, which antiperiodics were continued in smaller doses until Dec. 7. They had then partly, but not entirely broken up the intermittent fever. On Dec. 7th chills returned more violently; 20 grs. of quinoidine stopped the expected paroxysm on the 9th, but although a tonic treatment was adopted, the chills returned on the 21st; 24 grains of sulphate of quinia arrested them for a few days, but they again returned Jan. 27; 20grs. of quinoidine then prescribed; the patient continuing the medicine remained exempt until Feb. 16; chills then reappeared, although quinoidine was being largely administered. Feb. 24 she was placed on 20 grs. of sulph. of quinia daily, with bark after the chills had been arrested, as a tonic. No return of chill since 26th of Feb.
33	Eliza Holloway	20	tertian	" 28	20 "	None.	
34	John Eige	18	tertian	" 31	20 "	"	
35	John Kelly	45	tertian	Dec. 2	30 "	"	

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	Name.	Age	Type of Fever.	Date when first seen.	Dose of medicine which arrested chill.	Return of disease.	Remarks.
36	Edward Hart	10	tertian	Dec. 11	30 grs.	None	Intermittent fever had lasted since August.
37	Edward Heinson	20	tertian	Jan. 6	20 "	"	
38	William Young	3	tertian	" 20	30 "	Feb. 13	Dose was then repeated; no return since.
39	D. Smith	37	tertian	" 22	20 "	None.	
40	Will. Fitzger	24	quotidian	" 25	20 "	"	
41	James Wilson	24	quotidian	" 26	20 "	"	
42	John Dodd	48	quotidian	Feb. 22	20 "	"	
43	Robert Wyley	39	quotidian	" 23	20 "	"	
44	Thomas Dougherty	25	tertian	" 23	20 "	Mar. 7	Dose repeated on the 8th of March; no return since.
45	Michael Dougherty	41	tertian	" 23	20 "	None.	
46	Patrick Mullish	25	quotidian	March 2	20 "	"	
47	Francis Jordan	11	quotidian	" 7	20 "	"	
48	Mary Hagan	39	tertian	" 9	30 "	Mar. 28	The disease in this patient was contracted in Aug., 1854, on the banks of the Ohio river. She had been taking in large quantities sul. of quinia, which arrested the chills for a short time, but did not prevent their recurrence; 30 grs. of quinoidine arrested the chill on the 9th of March, and prevented the paroxysm until the 28th. She has been since continuing quinoidine, and has had as yet no return of the chill.
49	Sarah Hagan	16	quotidian double	" 10	20 "	None.	
50	Mary Argus	20	quotidian	" 10	140 "	Mar. 13	20 grs. were repeated on the 13th and 14th; yet chills every day until 17th. From that time no chill; medicine has been continued.
51	M. Murphy	24	quotidian	" 15	40 "	None.	The disease in this instance was of 6 months' standing; 40 grs. arrested the chill on the 16th; medicine since continued; no return of chills.
52	Susan Hoggarty	40	quotidian	" 22	30 "	"	
53	Mariol Brooks	21	tertian	" 22	20 "	Mar. 20	Commenced as quotidian in August; for the last 2 months assumed the tertian type. Quinia had been taken repeatedly, (although not in large doses) without producing much effect. Had a slight chill on the 23d; quinoidine has been continued in smaller doses since; no return of disease up to April 17th.

The writer might add notes of several more patients who were treated by quinoidine with equal success; he judges, however, the publication of the above cases to be sufficient to prove the efficacy of the remedy. Of the 53 cases cited, in many of whom the disease was of long standing, the chills were arrested in 49

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cases by the first administration of the medicine; only 4 required a repetition of the dose. In 10 cases the disease returned, which, although it may seem a large proportion of relapses, is not in reality so, when we consider the well known tendency of intermittent fever to return, and the fact that, in many of the cases, no medicine, for reasons above stated, was given after the first arrest of the chill. In conclusion, the writer can state as his honest belief, that quinoidine possesses antiperiodic qualities which, if not superior, are certainly not inferior to the sulphate of quinia or cinchonia, whilst he thinks it preferable to these, from the absence of bitter taste, from its being less liable to affect the head or the stomach of the patient, and from its comparatively low price.*

Mortality of Philadelphia for January, February and March, 1855; collated from the Record at the Health Office. By WILSON JEWELL, M.D.

The number of deaths in our city for the 1st quarter of the present year, 1855, embracing the months of January, February and March, amount to 2,526, a fraction less than for the same period of last year. This number furnishes an average of 27¼ deaths per day for 92 days.†

The mortality ascribed to diseases alone, as shown by the record at the Health Office, is 2076. Hence, 450 of the deaths are charged to Still-Born, External Causes, Old Age, Debility and Unknown.

From the male sex the deaths reached 1318; while from the female sex they were only 1208; showing an excess in the former, equivalent to 4·35 per cent.

In the deaths from External Causes, the excess amongst males amounts to 37·25 per cent.; attributable, no doubt, to their greater exposure than the other sex.

From diseases of the Nervous System, the excess of deaths is also on the side of the males, and is equal to 14·28 per cent.

It will be observed, that 1030 of the deaths, exclusive of Still-Born, or 43·02 per cent., took place within the 5th year of life; and that 1240, or 51·79 per cent., occurred within the 20th year.

*About one-seventh of the price of the sulphate of quinia.

† The quarter includes the two last days of December, 1854.

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As in former years so in this, the infant mortality bears a far less per centage to the whole number of deaths during the winter than in the summer and autumnal months.

The prevalent diseases during the quarter have been those of the phlegmasia, involving principally the respiratory organs, which constitute 35.79 per cent. of all the deaths from accredited diseases, and also those of the nervous system, which amount to 22·25 per cent.

Under these two classifications of deaths, we note that Consumption of the Lungs furnish 377, or 18·15 per cent. of the deaths from diseases alone. Inflammation of the Lungs, 174; Inflammation of the Bronchiæ, 89; Convulsions, 131; Dropsy of the Brain, 78; Inflammation of the Brain, 73; Congestion of the Brain, 44.

Among some of the exanthemata, the deaths have been lighter than last year in similar months. Those from Scarlet Fever have fallen off 48·61 per cent., and from measles one-half. The deaths from Small Pox and Varioloid, on the other hand, have increased 66·03 per cent.

The deaths from Croup have been 5 per cent. less than for the same quarter of last year.

The deaths from Old Age number 55, equal to one in 43 of all the deaths, exclusive of Still-born, or 1·32 per cent.

From the Blockley Almshouse there were 234 deaths, or 9·24 per cent. of the whole mortality for the quarter. The black population contributed 140, or 5·54 per cent. to the bill of mortality.

TABLE NO. I.

Deaths for the first quarter of 1855 *classified.*

				Male.			Female.			
	Jan.	Feb.	Mar.	J.	F.	M.	J.	F.	M.	Total.
1 *Endemic & Contagious diseases* Zymotic or Epidemic	120	135	134	69	61	72	51	74	62	389
2 *Uncertain or general seat,* Sporadic diseases	112	108	103	53	51	49	59	57	54	323
3 Nervous system	150	140	172	77	74	113	73	66	59	462
4 Organs of Respiration	252	220	271	131	117	129	121	103	142	743
5 " Circulation	30	20	27	14	13	18	16	7	9	77
6 Digestive organs	46	41	51	23	19	21	23	22	30	138
7 Urinary "	4	1	2	2	1	2	2			7
8 Organs of Generation	11	9	8				11	9	8	28
9 " Locomotion	6	1	3	1		1	5	1	2	10
10 Integumentary system	3			1			2			3
11 Old age	14	15	26	6	6	13	8	9	13	55
12 External causes	44	24	34	32	17	21	12	7	13	102
Still Born	52	36	44	31	16	30	21	20	14	132
Unknown	22	18	17	10	12	12	12	6	5	57
	866	768	892	450	387	481	416	381	411	2526

TABLE NO. 2.

1. *Endemic and Contagious Diseases—Zymotic or Epidemic.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cholera Asphyxia	1	1							2									2
" infantum	3	2	2	1	2													5
Croup	44	45	19	32	27	11												89
Diarrhœa	14	12	9	5	2				2	2			5	1				26
Dysentery	21	7	4	4	3	2	1	1	5	3	3		1	1				28
Erysipelas	15	12	10	3		1			3	2	1	3	1	2	1			27
Fever,	3	3	3		1	1	1											6
" Bilious	2					1						1						2
" Continued	1				1													1
" Intermit.	1			1														1
" Puerperal		15						2	8	5								15
" Remittent	5	4	1	2	2	1	1		1					1				9
" Scarlet	17	19	4	2	15	10	4		1									36
" Typhoid	31	24		2	1	1	5	10	20	8	2	4			2			55
" Typhus	7	6				3	1	1	3	3		1	1					13
Hooping Cough	5	13	5	9	4													18
Measles	7	4	5	4	1	1												11
Small Pox	23	18	13	4	11	6		3	2	1	1							41
Syphilis		1									1							1
Varioloid	2	1	1	1	1													3
	202	186	76	70	71	38	13	17	47	24	8	9	8	5	3			389

2. *Uncertain or General Seat—Sporadic Diseases.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess		1			1													1
" Psoas	1							1										1
Cancer	1								1									1
" Breast		1												1				1
Carcinoma		1										1						1
Cyanosis	4	1	4	1														5
Debility	49	55	44	2	2				4	6	3	8	14	16	1	4		104
Dropsy	17	25	1	1	3		3	1	2	8	8	3	9	2	1			42
Fungus Antrum		1										1						1
" Hematodes	1												1					1
Gangrene	1	2		1					1					1				3
" of Arm	1								1									1
Gout		2											2					2
Hemorrhage	3	4	3	1						1	1			1				7
Inanition	11	12	18	2						1	1		1					23
Inflammation	1	1		2														2
" throat	1	2								2	1							3
" parotid glands		1	1															1
Malformation	7	10	15	2														17
Marasmus	37	45	43	18	10	1		1	1	2		4	1	1				82
Mortification	1	1	1		1													2
Schirrhus	1												1					1
Scrofula	8	3	2	3	2	1	1		1		1							11
Tabes Mesenterica	4	2	2	1				1				1	1					6
Ulceration of Throat	4		2	1						1								4
	153	170	136	35	19	2	4	4	11	21	15	18	30	22	2	4		323

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3. *Nervous Diseases.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess of Brain	1				1													1
Apoplexy	14	12	1							2	3	7	8	2		3		26
Coma		1					1											1
Congestion of Brain	27	17	9	3	5	8			4	2	2		6	2	3			44
Concussion "	2									1	1							2
Convulsions	68	63	80	27	17	1		2	1	3								131
Disease of Brain	18	9	6	8	6		2		1	2		1	1					27
Dropsy "	50	28	35	19	15	5	2				1		1					78
Effusion "	4	13	3	5	2	2		2	1	1					1			17
Epilepsy	2	3	1		1			1	1					1				5
Fever, Brain	1	1	1		1													2
Inflam. "	42	30	15	11	14	9		1	7	5	3	3	3	1				72
Irritation, "		1			1													1
Mania	3	1								1	2	1						4
" a Potu	8	3							6	4	1							11
" Puerperal		2							2									2
Palsy	20	10	1							2	2	6	7	7	5			30
" of Brain		2	1		1													2
Softening "	3	1			1				1				2					4
Tetanus	1	1									1	1						2
	264	198	153	73	65	25	5	6	24	23	16	19	28	13	9	3		462

4. *Organs of Respiration.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess of Lungs		1								1								**1**
Asthma	2	3										3		2				**5**
Congestion of Lungs	22	15	10	4	2	3		2	1	4		3	6	2				**37**
Consumption "	191	186	7	8	8	5	6	28	152	88	41	26	16	7	4	1		**377**
Disease of "	5	7	3	1		2			2			1	1	2				**12**
Dropsy of Chest	7	8	1				1	1	3	2	1	1	3	2				**15**
Effusion of Lungs	1	2	2						1									**3**
Hemorrhage of Lungs	1	2			1							1	1					**3**
Hectic Fever		1							1									**1**
Inflamm'n of Bronchiæ	38	51	46	11	9				3	2	2	3	3	6	4			**89**
" Chest	3	4	4	1	2													**7**
" Larynx		2	1		1													**2**
" Lungs	97	77	53	22	18	4	1	1	13	13	13	8	10	13	3	2		**174**
" Pleura	6	4							3		3		3	1				**10**
" Tonsils	1				1													**1**
Tuberculosis	3	3		1	1			1	1	1		1						**6**
	377	366	127	48	43	14	8	33	160	111	60	47	43	35	11	3		**748**

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5. *Organs of Circulation.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Anæmia		1						1										1
Angina Pectoris	1	1							1	1								2
Aneurism of Aorta	2	1			1					2								3
Disease of Heart	29	22	1	3	3	1	2	4	13	2	5	7	4	4	1	1		51
Dropsy "	4	5		1	1	1			1		1		2	2				9
Enlargem't "	4	1		1	1					1			1	1				5
Gout "	1											1						1
Inflammat'n "	2	1	1							1				1				3
Ossification "	1										1							1
" Arteries	1												1					1
	45	32	2	5	6	2	3	4	15	7	7	8	8	8	1	1		77

6. *Digestive Organs.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess, Abdominal		1							1									1
Apthæ	1		1															1
Cancer of Bowels		1									1							1
" Liver	1	1								1	1							2
" Stomach	2	1									1	1	1					3
" Tongue	1												1					1
Cirrhosis of Liver	3									1	1	1						3
Cancrum Oris	6	1		1	5	1												7
Colic	1												1					1
Congestion of Bowels		1													1			1
Consumption "	1	1							1	1								2
Disease of Abdomen		1			1													1
" Bowels		2						1				1						2
" Liver	2	2			1					1	1	1						4
" Stomach & Bowels	4	2	2	1				1	1				1					6
Dropsy, Abdominal	4	3			1				1	1	1		1	1	1			7
" of Liver		1										1						1
Enlargement of Liver		1				1												1
Fatty Degeneration of Liver		1							1									1
Hemorrhage of Bowels	1								1									1
" Stomach	1												1					1
Hernia		2											1	1				2
Induration of Liver	1													1				1
Inflammation of Bowels		3						1					1	1				3
" Liver	4	9	1					1	3	2	1	2	2	1				13
" Peritoneum	3	16	1					1	6	8	2		1					19
" Stom. & Bowels	11	17	5		2	3	3	1	4	2	3	2	1	1	1			28
Intussusception of Bowels	2		2															2
Jaundice	9	1	4		1				1		1		1	1	1			10
Obstruction of Bowels	2							1	1									2
Schirrus of Stomach	1												1					1
Softening "		1								1								1
Teething	1	1	1	1														2
Ulceration of Bowels		3		1			1				1							3
" Pharynx	1			1														1
" Stomach		1										1						1
Worms		1					1											1
	63	75	17	5	11	5	5	7	21	18	14	10	14	7	4			138

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7. *Urinary Organs.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Diabetes	1								1									1
Disease of Bladder	1												1					1
" Kidneys	1								1									1
Dysuria	1														1			1
Inflammation Bladder	1									1								1
" Kidneys		2									1				1			2
	5	2							2	1	1		1		2			7

8. *Organs of Generation.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cancer of Uterus		7								1	1	2	1	2				7
Child-bed,		2							1	1								2
Convulsions, puerperal		8						1	2	2	3							8
Disease of Ovaries		3									2				1			3
" Uterus		1										1						1
Gangrene "		1		1														1
Hemorrhage "		3							2	1								3
Inflam. "		2								1				1				2
Ulceration "		1								1								1
		28		1				1	5	7	6	3	1	3	1			28

9. *Organs of Locomotion.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Caries of Spine		1	1									1						1
Disease "	1	3	2		1						1							4
Inflammation of Hip Joint		2			1		1											2
Rheumatism	1												1					1
Spina Bifida		2	2															2
	2	8	4		2		1				1	1	1					10

10. *Integumentary System.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Ichthyosis	1		1															1
Purpura Hemorrhagica		2					2											2
	1	2	1				2											3

11. *Old Age.*

Old Age	25	30										10	17	20	8			55

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12. *External Causes.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Asphyxia	6	2	8															8
Burns	9	11		6	5	3			5		1							20
Casualties	24	7	2		1	1		1	12	3	3	3	2	2	1			31
Drowned	11	3			1	1	2		2	5	3							14
Exhaustion	1		1															1
Exposure	2	1							1					2				3
Fracture	2							1					1					2
" Skull	2	1			1				1				1					3
Intemperance	3	1									3	1						4
Neglect		2		2														2
Strangulation	1										1							1
Suicide	7	1							3	2	1	2						8
Suffocation	1	3	2							2								4
Wound	1								1									1
	70	32	13	8	8	5	2	2	25	12	12	6	4	4	1			102
Still Born	77	56	132															132
Unknown	34	23	26	4	1		1	1	6	6	1	9	2					57

TABLE NO. 3.

Deaths for the First Quarter of 1855, *at fifteen distinct periods of life.*

Under 1 year,	555
1 to 2	249
2 to 5	226
5 to 10	91
10 to 15	44
15 to 20	75
20 to 30	316
30 to 40	230
40 to 50	141
50 to 60	120
60 to 70	150
70 to 80	114
80 to 90	54
90 to 100	19
100 to 110	0
	2394
Still Born	132
Total,	2526

Included within the above table, were 234 from the Blockley Alms House; 140 Blacks, and 18 from the country, as follows:

	January.	February.	March.	Total.
Almshouse,	72	86	76	234
Blacks,	45	36	59	140
Country,	5	6	8	19
Total,				393

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BIBLIOGRAPHICAL NOTICES.

Report of the Sanitary Commission on the Epidemic Yellow Fever of 1853; *published by authority of the City Council of New Orleans.* By E. H. BARTON M. D., and by Drs. AXTON, MCNEILL, RIDDELL and SIMONDS. New Orleans, 1854, pp. 542.

If the calamitous invasion of the pestilence of 1853, had produced no better ultimate effect upon the sanitary fortunes of the Crescent City than the development of this voluminous and most elaborate report, there would be reason for material consolation in the vitally important lesson it thus teaches for the future in regard to the etiology and prophylaxis, or rather aggravation and modification, of the dreaded epidemic.

We have been greatly interested in the copious details and various practical suggestions of Dr. Barton and his colleagues, and can safely recommend their manifesto to the attention of all who take interest in the study of public hygiene, as well as to all investigators of the course of the present epidemic scourges of the world. The growing extent and popularity of these sanitary inquests afford gratifying evidence of a far more enlightened appreciation of the benefit of hygienic regulations than formerly prevailed in the councils of the nation and among the people generally; and we are so fully convinced of the value of the feeling thus awakened, that we are anxious to encourage, in every proper way, a work that is so well calculated to make a good impression as the one before us. There is much striking evidence collected in its pages; and the practical conclusions are so freely and forcibly presented, notwithstanding a little very natural extravagance, that we earnestly hope it may exert a lasting influence, not only upon the community to whom it was addressed, but upon their more favored neighbors in other portions of this continent. In fact much that is stigmatized and recommended in relation to yellow fever in the South will equally well apply to the cholera and other malignant diseases in any portion of the country, and may hence be profitably pondered over in all quarters of the land.

We have no space or time to spend upon a regular review

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of the series of reports and other documents contained within the volume. A brief account of some portions of its matter must answer our purpose of introducing their general scope and meaning to the reader.

A sanitary commission appointed by the authorities of New Orleans was directed—

"1st.—To inquire into the origin and mode of transmission or propagation of the late epidemic yellow fever.

"2d.—To inquire into the subject of sewerage and common drains, their adaptability to the situation of our city, and their influence on health.

"3d.—To inquire into the subject of quarantine, its uses and applicability here, and its influence in protecting the city from epidemic and contagious maladies, and

"4th.—To make a thorough examination into the sanitary condition of the city, into all causes influencing it, in present and previous years, and to suggest the requisite sanitary measures to remove or prevent them, and into the causes of yellow fever in ports and other localities having intercourse with New Orleans.

"The Commission immediately organized and proceeded with due diligence to the fulfilment of the important task confided to it. It issued circulars embracing all the points for examination, and distributed them among the medical faculty and citizens here and the adjoining States, and to every quarter of the yellow fever region, whence information could be expected to enlighten its judgment on the subjects to be considered. It sat as a Court of Inquiry in this city daily for about three months, eliciting and inviting information from every accessible source.

"When this field had been sufficiently explored, it deputed its various members to visit different parts of this and the adjoining States where the epidemic had existed, to institute inquiries upon like matters and report upon them. One member was sent to visit the various Eastern cities, to obtain information of their sanitary condition, ordinances and usages. He was likewise instructed to visit Washington, to apply to the Government of the United States for aid in obtaining through our Diplomatic and Consular agencies throughout the yellow fever zone, whatever information our circulars called for, or that would advance the cause we were engaged in."

The result of the extended investigation, thus provided for, appears in a large amount of printed testimony furnished by a considerable number of intelligent medical practitioners and other observers in different places; several series of valuable maps and charts and meteorological tables prepared by Dr. Barton; a special report by Drs. Axton and McNeill on the first subject of inquiry; another by Dr. J. L. Riddell on the second

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subject; another by Dr. J. O. Simonds on the third; and lastly, a general report on the whole subject by the chairman, Dr. Barton, under the fourth head of the category given.

The first subsidiary report is well written and clearly drawn up. The conclusions are, that the fever had a local origin and was not contagious.

The report of Dr. Riddell is a capital one in every respect. Brief, clear and comprehensive, elegant in style and arrangement, and accompanied with engraved illustrations, it strikes us as especially useful in its suggestions for the immediate and thorough cleansing and drainage of the city.

The last of these minor reports—that upon the quarantine by Dr. Simonds—although well arranged and written, is not as full and perhaps not as conclusive as it might have been, had not the unfortunate impairment of his vision prevented him from engaging in the more extended reading and examination of the testimony indispensable to a full discussion of so embarassing a question. He would seem to be behind the age in adhering to the quarantine—at least the committee, for they are unanimous, are in this matter not in accordance with the the tendency of British and French experience and with a prevalent feeling in America against the quarantine as usually enforced. We are inclined to agree with the reporter in this view, although we cannot stop to argue in its favor. There can be hardly any dispute as to the propriety of the exclusion of any vessel suspected of impurity during the season of epidemic liability; and at all events, if there be a reasonable doubt in regard to the safety of admitting what may become the origin or source of mischief, it is no more than fair to give the inhabitants of each city the benefit of that doubt. The real inquiry seems to us to concern rather the nature and extent of the quarantine in each case, than the quarantine itself. The only question in which we discover any difference of opinion among the members of the committee, is that of the local origin of the fever. Dr. Barton asserts the domestic origin to have been incontestably established, but Drs. Riddell and Simonds deny the certainty alleged by Dr. Barton, and prefer remaining, like many other equally respectable authorities, unsettled in their views.

The report of Dr. Barton, with its accompanying maps, charts,

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hygrometrical and other meteorological tables, occupies, as it should, by far the lion's share of the whole production. It is a monument of painstaking industry, abounding in zealous discussion and explanation of his ideas respecting the origin and causes of yellow fever and the best mode of counteracting them. The two grand principles, the exposition of which he values above all others in his confession of sanitary faith, we may give in his own words:

"The one is that yellow fever is and always has been, here and elsewhere, a *preventable disease*, and

"The other is, that the presence of two general hygienic conditions are absolutely indispensable to the origination and transmission of the disease—the one of them, atmospheric—the other terrene. These must meet *in combination*, or there will be no result. The absence of *one*, as to *this* disease, is as the absence of *both*, and as one of these conditions is almost wholly within the control of man and the other partially so, it must follow that his power extends to its prevention and expulsion.

"These two principles constitute the bases of all the preventive and remedial measures with which the Report closes, and which were specially devised for practical execution through the ministrations of the city authorities."

We would be glad to be able to notice, to some extent at least, the table in which he has presented what he calls the "Climatic or meteorological elements of Cholera and Yellow Fever at New Orleans" in different years. The deductions from this table are among the most interesting peculiarities of the whole report. Although they may afford no decisive information with the present data, they are certainly very hopeful indications of an extensive and yet unexplored field.

The conclusions of Dr. Barton are substantially the same as those of the British General Board of Health, which he quotes in full, with the strongest expression of approval. We could not, if it were desirable, repeat those conclusions here, or examine them in detail. Suffice it to say that yellow fever is local in its origin; that the conditions which influence its localization are known, definite, to a great extent removable, and very much the same as those of cholera, and all other epidemic diseases; that it becomes more rare, more mild, or disappears, in proportion as the local causes are abated or removed, and that, consequently, the means of protection are not quarantine restrictions and cordons, but *sanitary works and operations*, having for their objects the removal of the sources of disease,

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or the removal of the population from exposure within the infected districts to the operation of those sources.

No resident of New Orleans, or indeed of any other city of our Union, could candidly examine the exposition of Dr. Barton without instruction; and we do hope, for the sake of the common weal, that it may be carefully and widely studied, in the North as well as in the South. There are many hints to be found in it which would be well worth attending to in places north of Mason & Dixon's line, no less than in the warmer regions of our more exposed neighbors.

It was intended for the public at large, and is therefore addressed to the nation instead of the profession; and should it meet with but a small share of the consideration to which it is entitled, the people of New Orleans cannot fail sooner or later to derive a lasting and inestimable benefit.

Strongly impressed with this feeling as, notwithstanding the rather discouraging bulk of the report, an attentive perusal of Dr. Barton's representations has rendered us, we find with great regret that the Reporter has encountered the most bitter and unreasonable opposition, in the pages of a New Orleans medical journal, and from a fellow practitioner—the very last source from which such an offering of professional beneficence ought ever to have been assailed. The whole spirit, style, and tendency of this home-made critique are such as to deprive it of any power, except a reactionary one in favor of the object of attack. We lament its appearance, however, as creditable to the profession of the country, and especially of the afflicted city itself, in which so much has been done, both at the risk and sacrifice of life and health, by the members of that profession, in support of a well earned reputation for devotion to the best interests of science and humanity. It is a great pity that any one occupying the responsible position of a journalist should allow his private animosity so far to get the better of his sense of propriety and justice, as to betray him into the gratuitous personal abuse of an unoffending scientific neighbor, and, through this neighbor, of the municipal authorities under whom he was called upon to engage in a public duty of the highest importance and respectability.

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On the Construction, Organization and General Arrangements of the Hospitals for the Insane. By THOMAS S. KIRKBRIDE, M.D.

Report of the Pennsylvania Hospital for the Insane, for the year 1854. By THOMAS S. KIRKBRIDE, M.D.

Annual Report of the Trustees and Superintendents of the State Lunatic Hospital of Pennsylvania, for 1854.

We would be sorry should our interest in the subject treated of in the works which we prefix, be estimated by the length of our remarks. In truth, there is no topic on which we would more willingly dwell; but time and space permit us only to say that "Kirkbride on Hospitals for the Insane" exhausts the theme, and both reports are replete with instructive information on the nature and treatment of Insanity.

THE MEDICAL EXAMINER.

PHILADELPHIA, MAY, 1855.

A BILL FOR THE ESTABLISHMENT OF A BOARD OF MEDICAL CENSORS has lately been introduced into the Legislature of Pennsylvania. It contains a number of objectionable features, with which we think the profession throughout the State should be made acquainted. The bill provides for the establishment of a Board of Three Censors, to be appointed by the Governor, (and therefore, it is presumable, likely to be politicians,) who are to itinerate throughout the State, with authority to summon before them all practitioners of medicine, with a view to examination as to qualifications. Without a certificate from this Board no practitioner is hereafter to be allowed recourse at law to recover the amount of a bill for professional services, and a tax of *twenty-five dollars* is exacted for the certificate, which is to be available only for one year. An annual re-examination as to improvement in qualifications is also provided for by the bill, with an annual tax for certificate of *five dollars*.

It is scarcely possible, we trust, that so outrageous an interference with the rights of the profession in this Commonwealth can receive

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legislative sanction; but it will be well if those of our readers whose interests are affected by the scheme, will exert their influence to oppose it.

MEDICAL NEWS.

AMERICAN MEDICAL ASSOCIATION.

The Association will commence its session in the Musical Fund Hall, Locust above Eighth, on Tuesday, May 1st, at 11 A. M.

The Committee on Registration will attend at the Hall of the College of Physicians, in Spruce above 8th, on Saturday, April 28th, between 11 and 2 o'clock in the morning, and at 4 o'clock and 7 in the afternoon, and on Monday, from 11 till 2, P. M., and from 4 till 10, P. M., and at the Musical Fund Hall, at 8 A. M. on Tuesday, to register city delegates and any others who may present themselves. It is to be hoped that this early opportunity will be taken advantage of by the city delegation, as much delay and trouble will be thereby avoided.

Arrangements by which delegates will pass to and from Philadelphia at half price, on presentation of their credentials, have been made with the following Railroad Companies: Pennsylvania Railroad from Pittsburgh to Philadelphia; Baltimore and Philadelphia Railroad, from Baltimore to Philadelphia; Baltimore and Ohio Railroad, from Wheeling to Baltimore; Petersburg and Roanoke Railroad, in Virginia; and the chain of roads from Elmira to Philadelphia.

A table of Urinary Deposits, with their Microscopical and Chemical Tests, has been sent us. It is a complete map, as it were, of urinary affections, which must have given its author, Dr. John King, of Cincinnati, much trouble to put together. We regard it as a very useful paper, particularly to the young student.

Dr. Horace Green has retired from the Chair of Practice in the New York Medical College. Dr. Henry G. Cox has been elected his successor.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.—The Annual Session of the Society will be held in Hollidaysburg on the last Wednesday (30th) of May, at 10 o'clock in the forenoon.

The Secretaries of the several County Societies will please forward the lists of delegates to either of the Secretaries.

D. FRANCIS CONDIE, Philadelphia,
HENRY CARPENTER, Lancaster,
Secretaries.

NOTE.—Our attention having been directed to p. 205 of our last number, where it is stated that a sponge "dropped into the windpipe of a man whose larynx Dr. Peaslee was cauterizing," we take pleasure in correcting a slight but most unintentional error contained in those words. The statement should have been that *the man himself* "dropped a sponge

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into his windpipe, and had tracheotomy performed for its extraction. The poor man died of hemorrhage into the trachea." (Watson, p. 19.) The operators were Drs. Crosby and Peaslee.

RECORD OF MEDICAL SCIENCE.

As our limits do not permit us to copy as many of the papers published in other Journals as we could wish, we shall occasionally take the opportunity of laying a short abstract of such of them as we deem most important, before our readers. We shall confine ourselves, in this number, entirely to surgical notices.

Amputation of the Thigh in Civil and Military Practice. The comparative success of Secondary Amputation. By RICHARD MCSHERRY, M. D. of Baltimore. (Amer. Jour. of Med. Sciences, January, 1855.)—The great fatality which attends upon amputation of the thigh after gun shot wounds is evidenced by the fact, that, during the campaign in Mexico, under Gen. Scott, there were no recoveries, so far as Dr. McSherry could learn, after the operation. This mortality is not peculiar to our country, as Mr. Ribes examined four thousand invalid soldiers, among all of whom he did not find one single instance of injury of the femur by shot, nor one who had undergone amputation of the thigh. Malgaigne was equally unfortunate with all his cases during the Polish campaign. In civil life, the case is widely different. The statistical tables, published by Dr. Norris, state that during a period of ten years, of sixteen amputations of the thigh, performed in the Pennsylvania Hospital, fourteen recovered, and but two died. The two fatal cases were primary amputations, after fracture of the thigh and compound and comminuted fracture of the leg, respectively. Of the fourteen successful cases, seven were fractures (one ununited fracture of thigh), one tumor on the knee, and six caries of knee-joint. These results are favorable, Dr. McS. thinks, to secondary amputations.

In the Parisian hospitals, there were, in ten years, forty-four amputations of the thigh. Of these, thirty-four died, and ten recovered. All of these, however, were amputations after *traumatic* lesions. A comparison of these results exhibits, Dr. McSherry observes, that patients who undergo great operations, in full robust health, are more liable to perish than those who are subjected to them for chronic disease. There is abundant proof also, that delay *is* advantageous. Dupuytren, in 1830, treated thirteen cases of fracture of the thigh *without* amputation; of these six recovered, and eight died. Malgaigne reports five cases treated by himself, *without* amputation, of whom two recovered, and three died. These results, compared with those in the same hospitals after amputation, (see ante,) show that the chances of life were greatest where the operation was not only deferred, but forgone alto-

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gether. Dr. McSherry considers that these facts show that the rule that the thigh must be amputated immediately upon fracture of the femur by shot, is a bad one, inasmuch as it requires certain destruction of the limb, without adding appreciably to the chances of ultimate recovery. When there is thorough disorganization of the limb from injury, the case, of course, is different. The *exception*, however, should not be made the *rule*.

Synopsis of 30 *cases of Ovariotomy, occurring in the practice of the author.* By WASHINGTON L. ATLEE, M.D., of Philadelphia. (American Journal of Medical Sciences, April, 1855.)—It is impossible to arrive at the true results of any operation—even the bare proportion of its death and recoveries—however large our statistics may be, unless we have all the necessary data before us. This is peculiarly the case with ovariotomy. From the general odium attached to it, there can be little doubt that there have occurred many fatal cases of its practice, which have never been given to the profession. The published results must, consequently, be viewed as only an approximation to the true proportion. Dr. Atlee's synopsis is peculiarly valuable for being free from this objection. The number of his cases is considerable; the operation was performed in every instance by the same person; one, too, whose large experience upon every point connected with the subject, insured the greatest probabilities of success, and the results are faithfully given us. That the profession may see at a glance what these results are, we shall give them a short analysis of the "synopsis."

We shall take the liberty, in the first place, of withdrawing four of the cases from the record, for the sufficient reason that in none of them was the operation completed. The tumor was left undisturbed in every instance, an exploratory incision alone being made. Of these four cases, three were uterine and non-adherent, and one extra-uterine and firmly adherent. Recovery from the abdominal section took place in all.—Death from erysipelas occurred six months after operation in one case. One died from the progress of the disease, between three and four years afterwards, and two are still alive, one of who was operated on five, and one nearly four and a half years ago. "Improved health since the operation" is stated to have taken place in one of these cases. In the other, "although the tumor was not removed, the operation was considered to have warded off impending death."

Of the twenty-six remaining cases, which we presume are all in which Dr. A. has operated, twenty-two were ovarian, and four extra-uterine tumors. Of the ovarian cases, eleven deaths are recorded and eleven recoveries. Of the extra-uterine, two deaths and two recoveries.

Of the thirteen recoveries, ten are now alive—five of whom were operated on between March, 1844, and January 1852—one in September 1853, and four between April and December, 1854—and three are dead, one dying thirty-nine days after the operation of cholera morbus, from eating heartily of duck, &c.—one thirty days after, of starvation, caused by excessive irritability of stomach, the consequence of pregnancy. (Dr. Atlee queries whether the production of abortion, the patient being

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two months gone, might not have preserved life in this case;) and one from phthisis palmonalis three years after the operation.

The condition of health of the ten now living, a most important consideration, is not noted, excepting in one instance, where it is represented as being perfect. Two cases have been pregnant but miscarried, and one has given birth to two large, healthy children, after being operated on.

In the thirteen which died, death was caused by peritonitis in four cases, by exhaustion in five, by hemorrhage in one, secondary hemorrhage in two, and by grangrenous perforation of the jejunum in one.

The period of death, after operation, was nine hours in one case; thirteen hours in one case; on the third day in five cases; on the fifth day in two cases; on the sixth, three cases; and on the twenty-second day one case.

The average time of death of these cases was about five days. The operation was performed with the hope of arresting impending death in seven cases, four of which terminated fatally.

To sum up, the operation was unsuccessful, from not being completed in four cases.

Of the twenty-six remaining cases, in all of which extirpation was performed, 15 or 57 per cent. of the whole number died within forty days.

Of the eleven remaining cases, one died of phthisis pulmonalis, an hereditary disease, three years after operation, and ten were alive up to the period of publication of Dr. Atlee's paper.

The condition of health of those still living is, as before stated, not noted, excepting in one instance.

We have no doubt that these results are, for reasons before stated, far more correct and reliable than any which have been previously published. They conclusively show that the very strong prejudice entertained by a large part of the profession against ovariotomy, is well-founded and proper. Nor is it an easy matter to justify it on other grounds. Few will admit that there exists the same urgent necessity for it that there does for strangulated hernia, or amputation, or ligature of large arteries, or lithotomy. All of these operations are unavoidable. The case is entirely different with ovariotomy. Women, frequently live even to old age, with ovarian disease, and many cases are recorded, in which the effused fluid has spontaneously disappeared. Upon the ultimate fate of the *recoveries*, too, we are in complete ignorance. Upon this point Dr. Ashwell observes:

"In these remarks, (alluding to a statement of Mr. Safford Lee,) I certainly concur, especially as to the ultimate, and in most instances early mortality of many of the patients said to have recovered. My own inquiries have furnished me with some painful knowledge of this kind." (*Treatise on the Diseases Peculiar to Women.*)

With these facts before us, we think it is the bounden duty of the profession to discountenance ovariotomy. One of the most frightful operations in surgery, its want of success, even when performed by an expert, will, we trust, add still further to the odium which has, heretofore, attached to it.

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An Account of the Cases of Dislocation of the Femur at the Hip Joint treated by Manipulation alone, after the plan proposed by W. W. Reed, M. D., of Rochester, which have occurred in the New York Hospital during the past two years. By THOS. M. MARKOE, M. D., one of the Attending Surgeons.—Dr. Markoe relates 14 cases of luxation of the hip joint, all of them treated on the principle of Dr. Reed's plan, that dislocation of the femur on the dorsum ilii can be remedied "by flexing the leg on the thigh, carrying the thigh over the sound one, upwards over the pelvis, as high as the umbilicus, and then by abducting and rotating it." After narrating thirteen cases, the writer says: "The cases which are related embrace every instance of dislocation of the femur which has presented itself in the Hospital during the last two years, and a reduction was always effected without the aid of pullies, excepting in the one case of Dr. Halsted, No. 7, and here a modification of the manipulation which had previously proved successful was not tried. In Dr. Post's case, No. 4, the reduction was finally effected from the foramen ovale by the usual mode, though without the pullies, but it was brought by the manipulation employed to this point from the ischiatic notch, from which it surely would have required the pullies to displace it on the old plan." "Though we have failed then, in reducing, by the new plan, two cases out of the thirteen, yet I think that the record shows good reason for believing that all might have been so reduced, if we had known at the time as much as subsequent cases have taught us." A rocking motion of the limb upon the pelvis, moving the leg backward and forward, frequently has the effect, when the head is near the acetabulum, of making it enter the socket. In seven of the cases the luxation was upon the dorsum ilii, three were into the ischiatic notch, and three were into the foramen ovale. Dr. Markoe states, that when the head of the bone is brought down towards the lower portion of the acetabulum, where its margin is least prominent, the mode of procedure had to be varied, sometimes, from that of Dr. Reed's. "He recommends, when the head is brought by abduction close to the lower edge of the acetabulum, that, by the rocking movement already described, it be caused to slip in. This is well, and will probably answer in many cases, but it failed so completely from the first, that we were led to add the bringing down of the thigh to the straight position in a state of abduction, still keeping up the rocking motion, and it has been uniformly in the act of thus bringing down the limb, that the reduction has been accomplished." The continuance of the movement, without force, is all that is required. After writing out the thirteen cases above mentioned, Dr. Markoe states that a case of luxation on the dorsum ilii came into the hospital. After trying Dr. Reed's plan several times without success, the usual method recommended by Sir Astley Cooper was adopted. A fracture of the cervix was the consequence.

The principle of Dr. Reed's plan in its application to the different forms of dislocation, presents some variations. It has its best illustrations in dislocations on the dorsum and into the ischiatic notch, their mechanism being for the purpose identical.

Dr. Markoe's paper is a most excellent one, and should be studied by every surgeon in the country.

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Abstract of Meteorological Observations for March, 1855, *made at Philadelphia, Pa. Latitude* 39° 57′ 28″ *N., Longitude* 75° 10′ 40″ *W. from Greenwich.* By PROF. JAMES A. KIRKPATRICK.

1855. March.	BAROMETER. Daily Mean	BAROMETER. Mean Daily Regn.	THERMOM. Daily Mean	THERMOM. Mean Daily Range	Dew Point 2 P. M.	Force of Vapor 2 P.M.	Rel. Humid 2 P. M.	Rain and melted Snow.	Prevailing Winds.	Remarks.
	Inches.	Inches.	Deg.	Deg.	Deg.	Inches.	Hunds.	Inch.	Points.	
1	30.250	.115	25.0	1.8	20.7	0.094	0.56		NW.	Cl'r. *Bar. high't* 30.272. *Th. lowest* 16°.
2	30.136	.114	34.7	9.7	31.3	.164	.58		S.	Clear.
3	29.854	.282	39.3	5.0	28.0	.129	.37		Var.)	Cloudy.
4	29.969	.127	43.3	3.7	30.3	.152	.44		W.	M. cloudy; aft. and ev. clear.
5	29.751	.241	46.7	4.7	37.7	.231	.56		SW.	Cloudy.
6	29.604	.212	52.5	5.8	28.7	.141	.28		WNW.	Cloudy.
7	29.705	.101	37.8	14.7	29.3	.147	.57		N.	M. and aft. cloudy; ev. clear.
8	29.845	.141	36.0	2.2	20.0	.084	.34	0.005	NW.	Clear. Rain during night
9	29.558	.287	41.5	5.5	37.3	.223	.64		NW.	Cloudy.
10	29.859	.301	29.0	12.5	21.3	.095	.49		NW.	Clear. [ring night.
11	29.769	.104	37.7	8.7	23.3	.092	.35	0 023	SW.	Cloudy. *Snow or hail* du-
12	29.781	.184	37.3	3.7	34.3	.194	.82		NE.	Cloudy.
13	29.738	.205	36.7	2.0	34.7	.199	.90	0.751	NE.	*Raining* all day.
14	29.796	.172	40.0	3.3	37.3	.221	.83		NE.	Cloudy. [bet. 7 & 8 A.M.
15	29.641	.155	44.7	4.7	44.7	.299	.92	0.645	N.	M. rain; thunder & lightn'g.
16	29.908	.271	43.3	2.7	34.7	.195	.68	0.012	N.	M. drizzling; aft. & ev. cl'dy.
17	29.767	.142	40.7	2 7	38.7	.234	.91	0.536	NE.	*Raining* all day.
18	29.917	.167	40.7	1.3	29.3	.147	.57		NW.	Cloudy.
19	29.937	.086	39.3	5.3	30.7	.155	.48		SW.	Clear.
20	29.916	.080	36.3	5.0	24.0	.103	.44		NW.	M. and aft. cloudy; ev. clear.
21	30.084	.168	32.0	5.0	22.0	.093	.46		WNW.	Clear.
22	29.936	.148	32.8	2.5	22.0	.093	.46		(Var.)	M. and aft. cloudy; ev. clear.
23	29.622	.313	36.7	5.2	21.0	.071	.27		SW.	M. clear; aft. and ev. cloudy.
24	29.412	.270	39.0	8.3	35.3	.201	.62		NW.	Cl'dy; aft. sn'w. *B. l'st* 29.310.
25	29.689	.277	31.3	9.0	22.0	.093	.46		W.	M. and aft. cloudy; ev. clear.
26	29.542	.170	41.0	9.7	30.3	.152	.44	0.007	SW.	Cloudy; evening *Rain.*
27	29.609	.192	37.3	9.0	25.0	.110	.46		NW.	Cloudy; aft. light Snow.
28	29.781	.173	32.3	5.0	23.0	.100	.48		W.	M. clear; aft. *Snow.*
29	29.826	.045	38.2	5.8	30.3	.155	.57		W.	Clear.
30	29.859	.034	47.7	9.5	27.7	.130	.26		SW.	Clear.
31	29.690	.169	52.8	5.2	33.7	.203	.34		(Var.)	Cloudy. *Therm. highest* 64°.
Means for March, 1855	29.798	.174	38.8	5.3	29.3	.152	.53	1.979	N. 60° W., 61-100.	
4 yrs	29.853		41.5		33.1			2.584	N. 65½° W. 52-100.	

The Monthly Range of the Barometer was 0.962 of an inch., and of the Thermometer 48°.

Dear Sir,—Two or three typographical errors occur in the Report for February, p. 256 of the Examiner.

The *Dew Point* on the 6th was —2.0, or 2 degrees *below* zero. In the remarks opposite the 7th, the *lowest of the Thermometer* was —1.0, or 1° *below* zero. In the column of *prevailing winds*, there should be no point between the letters; the direction for the 4th, 9th, 11th, 15th and 18th should be respectively WNW., NNW., WSW., WNW., and WNW., instead of W.NW., &c. J. A. K.

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THE

MEDICAL EXAMINER.

NEW SERIES.—NO. CXXVI.—JUNE, 1855.

ORIGINAL COMMUNICATIONS.

On the Nature and Treatment of Cholera.

By HENRY HARTSHORNE, M. D.

There is reason to believe, with Favell, that the cholera-attack may be, in general, resolved into three grades or stages:

1st. That in which the morbid (unknown, but supposed material) cause has reached only the alimentary canal, or the ganglionic centres which control its movements and secretions; giving rise to the premonitory symptoms, or those of *cholerine*.

2d. That in which the "poison" affects all the ganglionic centres* (miscalled those of the sympathetic nerve), and all the muscles of organic life, as well as some of the voluntary muscles; including in the former category the muscular coat of the stomach and intestines, the heart, bladder, smooth muscular fibres of the bronchial ramules, and the muscular coat of all the arteries and of some of the veins; producing what Prof. Meigs has most graphically called the *cholera-squeeze*, or universal tonic spasm of the organic muscular tissue; the pressure of which upon the blood produces an arrest of circulation, and an actual expression or forcible filtration of serum through the coats of the vessels, (and thence out by the mucous membranes), just as urine is filtered from the *corpora Malpighiana* into the uriniferous tubules of the kidney—all those morbid appearances after death,

* Loder, of Moscow, Orton, Delpech, Lizars, Coste, Favell, &c.

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which some have called inflammation, being, in truth, merely venous congestion, and the effects of what may be properly called vascular spasm.* It may be noticed, also, that the abundance of *free epithelial cells* in the intestines, after death, upon which so much stress was laid by Prof. Horner and by Böhm, has been proved by Drs. Parkes, Gull, Lindsay, &c., to be the result of maceration and not pathological.†

The pathology of the 3d stage consists in the confirmed poisoning of the *blood*, putting it, in many instances, beyond the power of recovery, so that patients often die after reaction from the collapse, with symptoms analogous to those of low fever. Examples of this occur everywhere, during the prevalence of a malignant epidemic,—as in the Philadelphia Alms House in 1849, and at Columbia, in 1854.

Indications for a rational treatment may, it appears to the writer, be deduced from such a pathology.

In the first stage, mild anodynes and diffusible stimulants, (perhaps, even, certain astringents), are very often sufficient to relieve and check the attack.

Some cases, however, pass directly, without any premonitory diarrhœa, into the collapse.‡ In anticipation of this, when threatening to occur, camphor, opium, chloroform, ammonia, creasote, and the essential oils, have been, as I believe, found to be the best of remedies.

In the second stage, Duchaussoy and Vernois§ have proved the absolute *non-absorption* of medicines. Stomachic stimulants and anodynes, to act locally,—and *ice*, to relieve the agonizing thirst, are all that it is worth while to give. In the early, or merely impending collapse, the external application of heat, as by the hot bath, &c., may do great good; later, it annoys and distresses without advantage, as Legroux and others have shewn.‖ I have seen this myself. Mustard cataplasms, according to general report, do more positive good; and so do frictions with red pepper and spirits, linimentum cantharidis, &c.,

* Marsden on Cholera, p. 34.
† Begbie, Edin. Med. and Surg. Journal, Jan. 1855.
‡ Vide Milroy on Cholera and Quarantine, p. 10.
§ Gazette Hebdomadaire, Sept. 8, 1854.
‖ Bull. Gén. de Thérapeut., Sept. 15, 1854.

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perseveringly employed. The galvanic battery would seem to be a rational means of exciting reaction; it has occasionally succeeded, but not often.* Venous injection has frequently been able to reanimate the patient for a period, and, in a number of cases, has effected final restoration. This must be the *only mode*, unless by inhalation, in which we can affect the system generally in the collapse of cholera. Dr. Little, in 1832 and 1849, introduced small quantities of alcohol in this manner, with perfect success in several instances.† Messrs. Duchaussoy and Vernois found the pupils to be dilated after injecting belladonna into the cephalic vein, when the largest doses by the stomach had no effect. I would suggest that belladonna and stramonium are remedies which ought to do good in cholera—as they, more than any other substances, induce relaxation of contracted organic muscular fibres. They should be tried by inhalation, as has been done in asthma; and I venture to propose, also, what I believe has never been thought of—*warm baths of the infusion of stramonium leaves*, in the incipiency of the collapse. Anodyne baths are now frequently used for other purposes. Great success is reported, in a recent journal, to have attended the employment of hot *hop* baths in tetanus.

It is proper to try all imaginable remedies in a disease so desperate as cholera, with whose therapeia we are, at last, so imperfectly acquainted.

Belladonna, or atropia, might be injected, with a saline solution, into the bronchial or saphena vein: and quinine might be employed in a similar mode. It must be remembered, however, that, even used in this way, medicines do not have their ordinary effect in proportion to the dose, on account of the morbid state of the nervous centres. Thus, Magendie‡ found that two grains of camphor, diffused in water and injected into the veins of a cat, will make the animal bound several feet; but, in a case of collapse, when ʒss. of camphor was similarly injected, not the smallest excitement was produced.

In regard to *calomel*, there is no indication for its use to be drawn from the morbid anatomy, or from the inferred pathology

* Report of Dr. Gull to Royal Coll. of Phys., p. 209.

† Report of Dr. Gull, p. 215.

‡ London Med. and Surg. Journal, Vol. ii., p. 586.

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of the disease. The argument in its favor, from the absence of bile in the stools, is rebutted by the fact of its abundance in the gall-bladder; and the clinical experience so commonly quoted on its behalf, is to be accounted for by the universal addition to it of opium in the prescription. In fact, however, the amount of success claimed for it is not very great, even with this adjunct. Such is the opinion of Dr. Gull, based upon the materials collected in his well-known and elaborate report.

I have but to remark, farther, upon the *rate* of *progress* of the disease. Phthisis may be a complaint of years; whooping-cough, of months; typhus, of weeks; pneumonia, of days; but cholera must be numbered by its hours, half-hours, or even *minutes*.

The rate of treatment, then, must be in proportion. We should give medicine, if we give it at all, in small quantities, every five or ten minutes: and especial perseverance must be maintained in the use of external applications, until the patient has fairly commenced to improve. When the blood begins to run through the veins of the hand so fast that the eye cannot follow it, after having been, as it often is, nearly at rest, he is mostly safe.

As to the third stage, or consecutive fever, of cholera, it is, perhaps, sufficient to say, that the treatment ought to be mild, palliative, expectant, and carefully supporting. Too little done, here, is better than too much.

If nothing new is added in the above short resumé of the treatment of cholera, my purpose is answered if the opinion be clearly conveyed, that a careful survey of the best recorded experience warrants the elimination of much that has been relied upon, especially in regard to the hepatic and constitutional medication of the collapsed stage.

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Creatine spontaneously deposited in Oxaluria. By GEORGE W. MILTENBERGER, Professor of Pathological Anatomy in the University of Maryland.

(Communicated in a letter to Dr. Neill.)

You will recollect that when I had the pleasure of meeting you in Philadelphia, I told you that in several cases I had lately found creatine existing in such amount or such combination in the urine, as to be deposited in fine and well-marked crystals, simply upon spontaneous evaporation. Taking into consideration the quantity of creatine which normally exists, the apparent relation between its excess, and the diseased states in which I have as yet found it, and the effects, as far as I can yet judge, of treatment, I deem it, if not of practicable importance, of sufficient pathological and physiological interest to solicit attention. I send you, by express, two slides, containing some of the crystals, so that you can judge for yourself, and if you consider it of sufficient interest, you can insert a notice or a more detailed statement of the fact in the Examiner, if you choose so to do.

In the early part of April last, I was consulted by F., a merchant engaged in and controlling a large and extensive business, for certain nervous and dyspeptic troubles, which almost entirely incapacitated him for business, and prevented the mental effort and concentration absolutely requisite in the discharge of his daily duties. In fine, he had all the symptoms which would attend a severe case of oxaluria, while, at the same time, there was marked waste and deficient nutrition, with great muscular debility. Attention being directed by the symptoms to his urine, it was found to present an unusually large deposit of oxalate of lime, (octohedra), with the oval plates or laminæ, thought by Bird to be oxalurate of lime. A drop of urine placed on a slide for examination, and covered with a thin cover-glass, was accidentally laid aside, when I was called off. Some twelve to fifteen hours afterwards I again put it under the instrument, and was struck with the unusual appearance presented. The next day, upon farther examination, when the crystalline forms were more marked, there could be no doubt, as far as microscopic appearances went, that it was creatine. It corresponded perfectly with the representations in the plates of Robin and Verdeuil, and as I have since satisfied myself with those of Funcke. I have sub-

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mitted them since to the best microscopists here, all of whom agree as to their character. Attracted by the fact, I have since examined in like manner the urine in three cases of confirmed dyspepsia, all marked by more or less waste and emaciation, and muscular debility, and in the three have met with the same deposit. In another case, a boy aged 20 came into the Hospital lately, with numerous congestive abscesses in the lower limbs, a pallid, almost earthen complexion, feeble circulation, almost total inappetency, great emaciation and excessive muscular prostration. Upon careful examination of his chest, commencing tuberculosis was evident. His urine presented the richest deposit of oxalate of lime (octohedra) I have almost ever seen. Here, also, creatine was largely deposited.

All that has been necessary in these instances, has been to place the drop of urine on the slide, as for examination, and suffer it to evaporate spontaneously, when the crystals mentioned have been found in from 24 to 48 hours.

During this period I have examined various and numerous specimens of urine from other individuals, some in health, others in various morbid states, without any such result. In all the five cases where it has been seen, there have been found the crystals and oxalate of lime. If it should prove that it is not thus present, except in cases of oxaluria, and that it is not thus in excess in all cases where the oxalate is present, may it not account for the discrepant views concerning the practical import of that deposite among different observers? some believing that when the oxalate is found, it is always an indication for a particular line of treatment and a matter requiring attention; others denying that it is of any practical import.

On the other hand, it may be related to the muscular waste and debility, and its connection with the oxalate of lime be a mere coincidence, in which case, however, its physiological bearing (as to its source) would be a matter of no less interest.

As to the treatment, I have nothing new to offer. The first four were treated as cases of oxaluria, three of them with the nitro-muriatic acid; the fourth, in whom there was a predominance of the oval plates (oxalurate of lime) with nitrate of silver. In all they readily responded to the treatment, and promptly and rapidly improved, with marked diminution of the creatine.

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I may be in error, but as far as my reading extends, I can find no notice of the fact that creatine has ever been found thus in urine by spontaneous evaporation. I have examined all the authorities within reach, including Lehman, and have consulted many who have been long and zealously engaged in urinary pathology, but have hitherto been unsuccessful.

Baltimore, May 12th, 1855.

On the Contagion of Puerperal Fever.

To the Editor of the Medical Examiner:

Dear Sir,—On reading the review, in the March number of the Examiner, of Dr. Holmes' work, I was impressed with the conviction that it must be decided upon experience alone, whether puerperal fever is contagious or not, and whether there are not different diseases included under that name. This experience should be generally contributed by all who have cases in their charge, and then the professional mind would soon become settled on this now much mooted question. Thinking that perhaps a statement of four obstetrical cases that have been under my care lately might prove useful, I subjoin it.

Mrs. McT. was brought to bed with her first child, Dec. 4th, 1854. After a natural labor she was delivered of a son; considerable hemorrhage followed his birth, which was easily arrested however. On the next day she was seized with a chill, followed by fever, with pulse of 126; slight chills recurred for two days more; retention of urine took place also. On the fourth day tenderness was observable in the hypogastric region and slight meteorism; there was little or no milk in the breasts, and the pulse rose to 144. The tenderness increased for some days, and the abdomen became tympanitic; palpitations became troublesome; but no delirium or heavy perspirations were observable. By the steady use of blue mass and opium (not however to narcotism or ptyalism) until the skin began to relax, and the tongue, previously heavily furred, showed a disposition to clean, and supporting the system then with quinine, she improved much, and was beginning to walk about the room by December 22, but on December 25 was seized with phlegmasia alba in the right leg. Her pulse rose again to 140, she became delirious, and had copious sweats, but under the influence of quinine she recovered

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rapidly, and by the 20th of January, 1855, was able to leave her room.

On January 11th I was sent for to attend Mrs. T., living two squares only from Mrs. McT. She was safely delivered of a boy and got well without a bad symptom. She had had puerperal fever after her previous child's birth.

My next obstetric case occurred on March 9th. Mrs. F., of nervous temperament, was delivered of a healthy girl after a short labor. She had for some time been suffering under a white discharge, which I suspected was syphilitic, but owing to absence from the city was unable to make a specular examination. On the second day this patient had a slight chill, which returned with increased severity on the third and fourth days. Intense peritonitis now set in, with a pulse of 140, a heavily furred tongue becoming dry and dark in the centre, changed expression of countenance, slight but well marked intoxicated delirium, and heavy sweats. Slight retention of urine also took place. But under the use of blue mass and opium at first, then of oil of turpentine (as a stimulant) and laudanum and quinine, she gradually recovered, and is now suffering only from weakness.

From the bedside of this patient I was called to see Mrs. M., living two miles from the last patient, on March 16th. I drew off Mrs. F.'s urine with the catheter, and then drove immediately to Mrs. M.'s and delivered her of a fine girl. The mother was well in a few days.

Such is the history of my obstetric cases between December and March. Previous to December, nothing of interest had occurred in them, all getting well speedily. The alternation of the cases, and the almost direct communication established between the last two, seem to me worthy of attention.

Yours respectfully,

J. Cheston Morris, M.D.

Philadelphia, April 20th, 1853.

Case of Musket-ball in the Bladder.

By James W. Robinson, M.D.

Nearly eighteen months since there fell under my observation a case of an anomalous character, which I have ever since desired to make public, but from negligence have suffered it to escape

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my attention until this late day. Hoping, however, that it may possess sufficient interest to warrant publication even after so great a lapse of time, I transmit to you an imperfect account of the case—imperfect from the fact that it is entirely from memory, having made no written record of the particulars at the time. I was then pursuing the duties of my profession, twenty miles northwest of this place, on the great thoroughfare leading from Chambersburg to Pittsburg. I was called six miles west on that road to see a patient who presented the following history:

He was a man between 30 and 35 years of age, of good physical development, and unquestionably at one time of fine constitution. Two years previous to the time he fell under my care, he was engaged in trading, in the State of Texas, whither he had migrated from Cincinnati, his former home. While pursuing his avocation in that State, he received a shot from a musket ball, which entered the depression formed by the glutei muscles on the outside of the hip, and passing through, behind the femur, lodged, he could not tell where. He lay for some weeks from the effects of the wound, without any medical or surgical treatment, and finally recovered sufficiently to return to Cincinnati. Here he entered the hospital, where he informed me that he suffered for some time from a vesico-rectal fistula, which was eventually cured by repeated cauterization; also, that either the wadding of the gun or a portion of his clothing driven before the bullet, had been removed by an operation, from the cavity of the bladder. During all this period, and up to the time at which I met with him, he could only pass his urine with much pain, by aid of a gum catheter which he had learned to insert himself, and carried constantly with him; the urine always being loaded with more or less purulent matter. Life becoming a burden to him in this situation, and his means of subsistence being reduced to an extremity, and not satisfied with what had been done for him in the Cincinnati hospital, he made his way to a similar institution in Pittsburg, at which place nothing more in the way of an operation was attempted, and no prospect of relief afforded him. He entertained some vague notion that an operation might be performed which would relieve his condition, but had no conception of the nature or rationale of it. Hence he conceived the idea, no doubt from the advice of some other person, of endeavor-

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ing to seek his way from Pittsburg to the Pennsylvania Hospital at Philadelphia, for the purpose of presenting his case to the surgeons of that institution. With that in view, his last hope of earthly comfort, he started from Pittsburg in his critical state of health, on foot and without money.

Buoyed up with the prospect of a relief of his sufferings, he travelled on at a slow pace, in the month of October, the weather cold and his clothing light. On one of the days in the latter part of that month, there came on a heavy storm of snow and rain, lasting throughout the day, and covering the ground to a considerable depth. During the whole of this day he wandered over long and steep hills, drenched with rain and chilled with snow, and halted at night at a tavern 116 miles east of Pittsburg, sick and exhausted, his day's journey having sown within him the seeds of death. After lying sick for a number of days without any medical treatment or attendance, I was called upon to visit him. I found him in a miserable condition, complaining of intense pain over the left kidney and in the region of the bladder, and passing, by means of the catheter, considerable quantities of urine heavily charged with pus, with much suffering during the evacuation of the bladder. He had labored under considerable febrile reaction, which had now assumed a real typhous type. He had for a length of time, that is in all probability ever since he received the wound, suffered from chronic inflammation of the bladder, which was forced into a more active state by his exposure to the inclement weather, while there was superadded evident acute inflammation of the left kidney. His tongue had assumed the dark brown or blackish aspect, so characteristic of his low typhous condition, with all the other symptoms corresponding. In the way of treatment, my efforts were directed towards effecting a mercurial impression, both by internal and external use, but without avail. Demulcents and stimulants, ammonia and wine, and finally brandy and the application of powerful sinapisms and other medicines, and applications which have escaped my memory, and the recollection of which for our present purpose would be of little importance, were also used. He seemed to rally slightly sometimes, but lingering on for near ten days, he sank and died under copious hemorrhage from the bladder and bowels simultaneously. Two hours after death I proceeded to make a post-

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mortem examination, which was, of necessity, very imperfect from the want of assistance, scarcely being able to procure the services of any one to furnish me a sufficiency of light (it being in the night) from the horror people out of the profession pretend to have for such operations. The examination, however, was sufficiently minute to invalidate my diagnosis, and to reveal a very remarkable case. The left kidney I found to be a mass of suppuration. The bladder was much indurated, and its coats thickened to an incredible extent. Laying open its walls I found within its cavity a musket ball of the largest size, with a calculus three or four times the size of the bullet attached to its side. I have both the ball and the calculus in my possession, though they have become detached by violence. The ball weighs more than an ounce, and is the largest I ever saw. The calculus measures more than an inch in every dimension, except one, being a little flattened and of a cylindrical shape.

The singularity of the case is in the fact that a large musket ball, with a portion of clothing, was driven entirely through the fleshy part of the hip within the cavity of the pelvis, and finding a lodgement in the bladder, allowed it to heal over it, and that it remained there for two years without causing disturbance inconsistent with life. Also, that after the first shock of the injury he underwent a partial recovery without any treatment. It is also very singular that he came through the hands of a number of surgeons who failed even to detect the presence of these foreign bodies in the bladder. I regret very much that he did not reach the Pennsylvania Hospital in as good health as he left Pittsburg, then able to make a long journey on foot in bad weather. I am very sure the able surgeons of that veteran institution would not have mistaken his case, but would have unhesitatingly submitted him to the operation of lithotomy, with every prospect of saving his life and restoring his health.

I regret that my recollection and a more minute examination of the case do not enable me to give an account marked with that exactness and clearness of detail which must be a characteristic of every good clinical or post-mortem report.

Warfordsburg, Fulton Co., Pa., April 17th, 1855.

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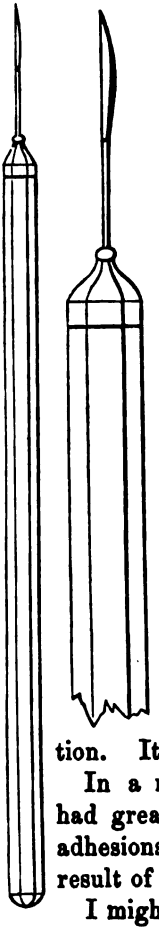
New Form of Cataract Needle. By JOHN NEILL, M.D., Professor of Surgery, Pennsylvania College.

In the operation for cataract by solution or absorption, every one has experienced the necessity of having an instrument that would not merely prick or perforate, but one that would also cut or divide the capsule and lens. In addition consequently to the old instruments recommended by Scarpa, Saunders and Adams, we have recently been favored with many improvements in this department of Surgery.

Fig. 1. Fig. 2.



Mr. Gemrig, the cutler, has lately made for me an instrument which I think combines all that is to be desired in a needle for this operation.

Figure 1 represents the real size and form of the needle, and figure 2 exhibits it enlarged twofold.

The peculiarities are that it has but *one cutting edge*, which is *straight*, and it is therefore more readily sharpened, especially as *its sides* are *flat*, whereas in the double edged and lancet-shaped needles the edge is convex and the sides are also convex, and hence the difficulty in obtaining the great desideratum, a cutting edge. I have directed also that the edge of this miniature straight bistoury should form only one half of the needle, the remaining half or shank being cylindrical, so that it can be revolved readily in the wound through the tunics, which could not be done if the edge occupied the whole of the needle, as is the case in the old fashioned iris-knife.

The back of the needle is rounded and slightly convex, although this is not of much importance; but near the point the back should be sharpened slightly so as to facilitate its ready penetration. Its length is $\frac{1}{8}$ of an inch.

In a recent operation at the Pennsylvania Hospital, I had great satisfaction in the use of this needle, in dividing adhesions which had formed between the lens and iris, the result of inflammation subsequent to a previous operation.

I might also add that others engaged in this depart-

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ment of surgery, and whose experience and judgment I much value, have assured me of their satisfaction in its employment.

Mineral and Thermal Springs of the United States.

By JOHN BELL, M.D.

While engaged in preparing my full and elaborate work on Mineral and Thermal Springs, which, I regret to say, will not make its appearance this year, I have thought that a brief notice of those of the United States would be acceptable at this time. It will, at least, serve to give a wider range of selection for those who are yet undecided as to the spot which they may visit in the dog-days.

I shall not begin far "down east;" and shall, therefore, first notice the *Berkshire Soda Spring*, within three miles of the beautiful village of Great Barrington, Berkshire county, Massachusetts, through which four daily trains of cars pass. Great Barrington is 28 miles from the Hudson river and the city of Hudson. The chief mineral impregnation of this water is in the soda, combined with carbonic acid and chlorine, and a little alum.

Oak Orchard Acid Mineral Springs.—Under this title we meet with a very active water, holding in solution, sulphates of magnesia, alumina and iron, with other salts, and an excess of sulphuric acid, constituting what is called Alum Water of some of the Virginia Springs. It is an active tonic and astringent.

These springs are about six and a half miles south of the village of Medina, on the Erie canal, and eighteen south-east from Lockport, Genesee County, New York.

Avon Sulphur Springs.—The waters of these springs are among the strongest of the sulphureous class, and contain also sulphate of soda and other salts, which render them purgative. In one of them (in the Sylvan group) iodine has been detected.

Avon is on the eastern bank of the Genesee river, in Livingston County, New York, eighteen miles from Rochester. The springs were known to the Indians, who resorted to them for the cure of diseases,—a reputation well deserved and sustained to the present day.

Saratoga Springs.—These springs are deservedly celebrated, and nowhere can be found mineral waters of the carbonated

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saline class at once so pleasant and endowed with so much medicinal activity. Then, in addition to the chief fountain, there are iodine and chalybeate springs, so that all desirable variety is furnished for the relief or cure of a large circle of diseases. We need not give here an analysis of these waters; but refer to the treatises of Steele, North, and Allen on this point, and on their medicinal uses.

Lebanon Spring.—This is ranked, on the score of temperature, among the Thermal springs, and of gaseous impregnation, among the nitrogen ones. The water is constantly at 73° F., while that of the other springs in the county (Rensellær) is 52° F. Its saline impregnation is very slight, being only a grain and a quarter in the pint. The temperature is such as to render the Lebanon water a delightful bath. So copious is the supply that not only is there an abundance for all the baths, but also enough to turn two or three mills erected within a short distance. These are kept running during even the severity of the winter.

Albany Mineral Springs.—They are represented to be very similar to those of Saratoga and Balston; but they contain a smaller proportion of carbonic acid gas.

Canandaigua Sulphureous Springs.—These are eight miles north-west of the town. They gush from a hill in so copious a stream as to turn a mill.

This class of waters is very numerous in the State of New York. At *Buffalo* there is one of considerable strength. The water contains, in addition, carbonates of lime, magnesia and soda, and sulphate of lime.

Sharon Springs.—These sulphureous waters almost rival those of Saratoga, in the reputation which they have acquired for the cure of various chronic maladies; while the spot itself has superior natural beauties. One of the springs, the Magnesian, has a greater proportion of saline contents, and a greater tendency to act on the bowels than the other; and hence it is used in cases in which the exciting effects of the latter, or White Sulphur as it is called, would be injurious.

In addition to the well known Brine Springs and Salines in New York, there are, also, many medicinal saline springs in the districts in which the former prevail.

Byron Acid Spring.—In the salt group of Onondaga, in a

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portion of the Silurian system of the State, we meet with this spring, the water of which contains an excess of sulphuric acid, by which and its other contents it ranks among the Alum Springs.

Sulphureous Springs of Vermont.—Among these we may enumerate the *Highgate* springs, within 12 miles of the steamboat landing at St. Alban's Bay; also those of Newbury 27 miles east of Montpelier and 47 north-east from Windsor; and those of Alburgh.

Bennington Thermal Spring.—It is thus designated by Professor Hitchcock, who does not, however, give its temperature. It emits both nitrogen and oxygen gases. The water is abundant enough to turn the machinery of a powder mill.

Schooley's Mountain Springs.—These are the most noted and most frequented of the mineral springs of New Jersey. The water 50° F. is a mild saline chalybeate, the virtues of which are greatly aided by the cool and invigorating air of this spot.

Bedford Springs.—These rank foremost in Pennsylvania, on account of their mineral properties and medicinal effects, and their mountain elevation and surrounded scenery. They are two miles from the town of Bedford, and less than 200 miles from Philadelphia and not 100 from Pittsburg: they are 130 miles from Baltimore, and the same distance from Washington. The water of the chief spring is a saline chalybeate. Others have received the designations of *Limestone*, *Sweet*, *Sulphur* and *Chalybeate*. The most active ingredients in the first or main spring are sulphate of magnesia and carbonate of iron. The temperature of the water is 55° F., which must be somewhat higher than the common springs of this region.

The Bedford water has acquired deserved celebrity in indigestion and chronic diarrhœa and dysentery, and in renal diseases, in which the inflammation or inflammatory excitement has subsided, and there remains an atonic and enfeebled condition of the organs. In uterine and in cutaneous diseases which have reached this stage, and have assumed a chronic character, it is, also, of decided benefit. The gouty and rheumatic in whom there is no plethora or cerebral determination, have also reason to speak well of this water.

What with the invigorating effects of the water, and of the mountain air and mountain walks, the visitors must be supposed

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to have a keen appetite, and to require a bountifully supplied table; the more so as the majority at a watering place do not rank themselves among the class of invalids, and have to rely on something more than drinking the water or bathing, to keep up their strength and spirits. Of the way in which these things are managed at Bedford I cannot speak from personal experience.

Within a day's ride of Bedford are the little town of Bath, in Virginia, and its thermal spring, of which further mention will soon be made.

York Springs.—One of them is saline, the other a strong chalybeate. The water of the first is said to be diuretic and mildly cathartic. This place is readily reached by railroad from Philadelphia and Baltimore. It is in Adams County, "two to four hours ride of Gettysburg, Carlisle, Harrisburg and Hanover."

Perry County Springs.—These, erroneously called "Warm," are so far thermal as to be, probably, fifteen or eighteen degrees higher than the common spring of the country; and hence the water would furnish a pleasantly cool, approaching to a temperate bath. They are fourteen miles from Harrisburg and the same distance from Duncannon, on the Central Railroad, and at the foot of Pisgah mountain, in a district which allows of fine drives and rides.

Carlisle Springs.—The water of these springs is a mild sulphureous one. They are within a short distance of the town of Carlisle, which is traversed by the railroad from Philadelphia to Chambersburgh.

Doubling Gap Sulphureous and Chalybeate Springs.—They are situated in a gap formed by the doubling of the Kittitany or North Mountain, about thirty miles south-west of Harrisburg. The Cumberland Valley Railrord passes through Neuville, distant eight miles from the Springs, to which visiters are taken by stages.

Bath Chalybeate Springs.—At one time these springs used to be visited by many of the citizens of Philadelphia, on account, in good part, of ready access to them. They are within a short distance of Bristol, on the Delaware.

Besides these Mineral Springs of Pennsylvania now enumerated, there are cold springs of pure water, which, owing to their situation in healthy and romantic districts of country and the

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facilities furnished for cold bathing, have acquired deserved vogue. Of these I shall notice—

The Yellow Springs.—They are in Chester County, thirty miles from Philadelphia; and are reached from this city by railroad and stages. The view of the surrounding country is fine, and facilities are given for excursions in different directions. In addition to the natural baths of the temperature of the chief spring, which is 53° F., warm ones are also obtainable. The house is well kept, and the table every way good.

The Ephrata Mountain Springs.—These springs, situated 13 miles north of Lancaster, are resorted to by large numbers of people every year. The scenery, the grounds around, the hotel accommodations and the means for procuring baths of various temperatures, present strong inducements to visit this spot.

Caledonia Springs.—To the inhabitants of the city who have suffered from the wear and tear of business, to the invalid slowly recovering from disease, to those who have become weakened and exhausted in the giddy round of pleasure, and to all who would like to see Nature in her nobler aspects, this spot is eminently inviting. New scenes and new associations of a genial and abiding character are opened to us; and, for a time at least, we feel ourselves relieved from leaden cares, and enjoy a sense of unwonted freedom. While nature has been so bountiful in her mountain and woodland views, her pure and copious springs and streams, and her vivifying and exhilarating air, art has also contributed its share to the comfort of the visitors to these springs, who are received in a new, spacious and well ordered hotel, are comfortably lodged, and sit down to a table every way well supplied—the viands good, abundant, and prepared with due culinary skill.

The Caledonia, long known as Sweeny's Cold Springs, have enjoyed, during many years past, quite a reputation, when used as a bath, for the cure of chronic rheumatism and various other diseases in which there is a blending of still remaining febrile heat and irritation with debility. Warm baths are, also, always to be had.

The springs are situated on the South Mountain, which rises in the rear of the hotel, and in front they command an extensive

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view of alternate woods and fields, terminated by a semicircular sweep of the North Mountain.

Without meaning to undervalue the efficacy of mineral waters, the writer can recommend invalids, or the weak who wish to become stronger, to make the regular drinking of the singularly pure water of one of the springs, before breakfast and before dinner, a part of the pleasant regimen of good eating, sound sleeping, and varied exercises which he will enjoy at this favored spot.

The Caledonia Springs are fifteen miles from Chambersburg; the greater part of the road being the turnpike which unites this town with Gettysburg. Visitors, on their arrival by railroad from Philadelphia or Baltimore, are taken out immediately in omnibuses or other vehicles from Chambersburg to the springs, which they reach on the evening of the same day of their leaving either of the cities just named.

Virginia is peculiarly rich in mineral springs, and until the acquisition of California and New Mexico, had more thermal ones than any other portion of the United States. Beginning at the North and advancing to the South, we first meet with—

The Bath (Berkeley county) *Spring.*—This, like the Sweet Springs, is a mild carbonated or acidulous thermal water, of the temperature of 73° F., the same as that which in England, by a strange blunder, is called Bristol Hot Well. It has been very serviceable in a variety of chronic diseases, when used as a bath. Persons who went there crippled with chronic rheumatism have come away quite restored to the free use of their limbs, and as agile in all their movements as the country people around. The internal use of the water merits more attention than it has generally received, especially in atonic and irritable dyspepsia and chronic bowel diseases.

Bath is within a short distance of the Baltimore and Ohio railroad, if we are not mistaken; and, as already stated, it is not far from Bedford, Pa.

Shannondale Saline Springs.—These springs are within a few miles of Charlestown, Jefferson county, through which the railroad from Harper's Ferry to Winchester passes. The water acts as a mild aperient and diuretic, and it is adapted, in conse-

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quence, to a large circle of diseases. The springs are near the banks of the Shenandoah, the sound of whose waters is heard with an agreeable effect at the Hotel on the hill, where the visitors are quartered. There are few spots in the Union which present so many natural advantages and capabilities for extended walks, gardens and groves as Shannondale.

Jordan's White Sulphur Springs.—They are about five or six miles from Winchester, and four miles from the railroad between this town and Harper's Ferry. Passengers leaving Baltimore in the morning will reach the springs between three and four o'clock in the afternoon. The waters are serviceable in chronic dyspepsia, with a torpid state of the liver, chronic rheumatism, cutaneous affections, and the debility left by fevers.

Many of the visitors to the upper or mountain springs in the south western part of the State, spend a few days here on their return to the north; and those from the Eastern Shore and Northern Neck linger late in the season, until it is safe for them to go home, with a prospect of escaping an attack of their endemic fevers.

Capon Springs.—These have come greatly into vogue, and it would seem not without good reason. The water is beneficial in certain forms of dyspepsia, and in renal affections, especially, as we are told, in the lithic acid diathesis. The arrangements for cold bathing are on a large scale, and the baths of a superior kind; warm bathing can also be enjoyed by those who claim it, either as a hygienic agent, or a remedy for disease. Mountain air largely inhaled gives a keener relish for the mountain mutton, of which the lovers of good cheer speak so highly at this place. A hotel of the first class has been erected, and furnishes good quarters to a large number of visitors. Not a few have their own houses or cabins.

The Capon Springs are about 80 miles from Winchester. Whether the fear of diminishing the reputation of the water as a medicinal agent, by showing how very slight is its medicinal impregnation, or owing to the indolence of the parties more directly interested in the question, we cannot say; but, as yet, there has been no analysis made, or, at any rate, reported, which has come under my notice.

Fauquier or Warrenton White Sulphur Springs.—They

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derive the first name from the county, the second from the town in which they are situated. They are within a few miles of the railroad from Alexandria, and at the same distance from the one to Staunton, which traverses the Valley; and also by stages from Winchester.

The waters are of a mild sulphureous nature, but of the proportion of their gaseous and solid contents we are ignorant. Numerous cases are recorded of their efficacy in dyspepsia, chronic diarrhœa, and chronic rheumatism, also in renal affections and disorders of females; but without very minute specification of the organic lesions in the latter.

Attractions superior even to those of the waters are offered to the crowd of visitors, in a noble mansion, as a hotel, and extensive and tastefully arranged grounds, ornamented with shrubberies and parterres. In addition to the main building, a pavilion, which has a portico on its western front, commanding a view of the lawn, and an extensive picturesque region beyond, there are several brick buildings of a large size. Ample provision is made for all the varieties of bathing.

After traversing the beautiful and fertile region known as the Valley, between the Blue Ridge and the Alleghany mountains, which begins at Harper's Ferry and ends at the Natural Bridge, south of Lexington, we find ourselves in the vicinity of the celebrated "Virginia Springs." We know of no place in the world, of the same extent, which is marked by such a number and variety of mineral and chemical springs as the one now under notice. It possesses, at the same time, the advantages of a fine climate and scenery of a highly diversified character. The company at the several springs, free from aristocratic pretentions and ridiculous attempts at exclusiveness, always exhibits a large share of intelligence, good taste and sociability. The infusion of the Virginian and Southern element—a frank, cordial address and good humor—adds not a little to the pleasures of the Northern visitors, who, with excellent intentions, are not remarkable for that ease of manner and confiding speech which invite intimacy.

Leaving Staunton with a design to visit the "Springs," we shape our course west, and at a distance of 45 miles in this direction we reach

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The Bath Alum Springs.—They are on the main road from Richmond to Guyandotte, on the Ohio river, at the eastern base of the Warm Spring mountain, and a few miles east of the Springs themselves.

An analysis of the water of one of the Bath Alum Springs, that most used, by Dr. Hayes, of Boston, shows it to contain, in a gallon, nearly fifty-five grains of saline substances, and of carbonic and sulphuric acid. Those most active, are the salts of iron, and alumina, and on them and the free sulphuric acid, the sensible properties and curative powers of these waters in a great measure depend. Being a strong tonic and astringent, it is easy to indicate a number of diseases in which they must be of service, and, already, experience has proved in many respects what *à priori* reasoning would have suggested respecting their beneficial operation. We may specify, as first on the list, chronic affections of the digestive mucous membranes, including those of the throat, stomach and bowels, and marked by feebleness or imperfection of function and morbid secretions. Similar praise may be extended to it in chronic diseases of the urinary and generative organs, and cutaneous diseases, chronic ulcers, simulating cancers, and scrofula have been greatly relieved, and in some cases entirely cured by the methodical drinking of these waters—a result quickened by their external application to the sore or tumor.

The accommodations for the reception and entertainment of visitors are represented to be of a superior kind at these springs.

Rockbridge Alum Springs.—If, in place of turning off west from Staunton, we were to go further south, to Lexington and the Natural Bridge, and then visit the Warm Springs, we should meet with these alum springs on the road. They are 17 miles from the town just mentioned, and 22 from the Warm Springs, in a valley between the North Mountain on the East, and the Mill Mountain on the West.

The composition of the waters of these Springs, as ascertained by Dr. Hayes, is similar to that of the Bath Alum Waters, and both of them resemble those of the Oak Orchard Springs, and the Acid Byron one in New York. The Rockbridge water is stronger in the proportion of free sulphuric acid and the sulphate of alumina, but contains less iron than the Bath waters. Its

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use is applicable to the same diseases in which the other is beneficial, with the modifications required by the differences in chemical composition just now stated.

(To be continued.)

BIBLIOGRAPHICAL NOTICES.

Reports relating to the Sanitary Condition of the City of London. By JOHN SIMON, F. R. S., Surgeon to St. Thomas's Hospital, and Officer of Health to the City. London, 1854.

These are highly valuable and interesting sanitary reports, although local in their character. Officially addressed to the Commissioners of Sewers of the City of London, and printed originally for the use of the Corporation, nevertheless, they commend themselves to the general reader; especially to those who have given any attention to that most important yet "scandalously neglected" subject, Public Hygiene.

In this age of internal improvement, of scientific research and discovery, of changes and revolutions in daily progress, moving on, too, with a startling rapidity that in some instances would appear almost to outstrip the capabilities of our nature, we cannot comprehend the secret agency that retards the wheels of sanitary reform. It is a fact incontrovertible, that in this country, at least, there has been very little, if any, national legislation towards an effective and permanent sanitary organization. In other words, the cultivation of the science of the physical necessities of human life has received at the hands of our law-makers far less attention than any one subject which has claimed their interference. It is gratifying, however, to find here and there a mind peering out from amidst the universal indifference to those laws and regulations which are necessary to ensure the public health, and willing to devote their talents and influence to the cultivation of the sanitary science.

Prominent among such, beyond the Atlantic, may be noticed the learned author of these reports, whose indefatigable perseverance in advancing the science of Hygiene, entitles him to a distinguished position in the list of philanthropists of the nineteenth century.

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In the Preface accompanying this volume of Reports, we are very modestly told, that they "lay no claim to the merit of scientific discovery." Be this as it may, they shadow forth a spirit of enquiry, and evince that philosophical familiarity with the subject, that justly entitles the author to the merit of reducing to practice certain known principles, and of adding many new facts to the domain of the science of Hygiene, for the improvement of the social, moral and physical condition of the human family; or, in his own beautiful language, he has labored "to make trite knowledge bear fruit in common application."

There are five of these reports, beginning with the year 1848 and terminating with 1853. In the fifth and last, the author sums up for this quinquennial period the death rates to the population of the city of London proper, which average about 24 *per* thousand *per annum*. A high average, when the lowest death rate *per* thousand, attained in England, for a period of seven years, has been 14. Another fact of interest which these statistics reveal, is that for the deaths exceeding five years, the rate is under 17 per thousand, while for those under this age, the rate is 85 per thousand.

After dwelling upon the abridgement of human life by preventable diseases, the *effect* of the direct operation of local and preventable *causes*, the author congratulates the Commissioners upon the success attending the public health acts of Parliament, and alludes to the sensible improvement in the sanitary condition of the city, although, he says, "the far greatest evils still remain for correction"—the deaths having been four *per cent.* fewer for equal numbers of population, than previous to the operation of these health acts. Under this head, Dr. Simon concludes by saying, "the approaching institution of your extra mural cemetery, and, I venture to hope, the translation of all slaughtering establishments to the site of your new Smithfield, will be important contributions to the regaining of the allotted duration of human life."

In all these reports, great stress is laid upon the injurious influences upon health of certain trades and occupations conducted in cities, among which, the slaughtering of animals is looked upon as a flagrant nuisance. Any occupation, the author insists, which ordinarily leaves a putrid refuse, ought not, "under any circum-

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stances, to be located within a town;" and as to slaughtering animals in cities, he has no hesitation in pronouncing it "as both directly and indirectly prejudicial to the health of the population."

We have long entertained the opinion that any sanitary organization in a city would be incomplete, that allowed the carrying on of noxious trades, particularly those where animal matter, liable to decomposition, was in any way employed. Hence, slaughtering houses, glue and soap factories, tanneries, skin dressing, bone boiling and such like occupations, should be conducted beyond the limits of the population.

A deteriorated and unhealthy atmosphere, or an atmosphere loaded with an organic poison, must necessarily be breathed continually, wherever establishments such as have been enumerated, however well conducted, are located in the midst of a dense population. To preserve a pure and healthy state of the air in cities, all causes that exert an influence to vitiate the atmosphere should be suppressed. This opinion has been materially strengthened since reading the able reports of Dr. Simon, and we are confident that if their contents were carefully analysed and explained by competent authorities in our American cities, we should soon have legislative action, for the mitigation of many fruitful causes that exist for the prevalence of preventable diseases and deaths in cities.

House drainage and house ventilation, are also topics treated of in these essays, both of which require sanitary correction. Of the former, the experience of the author tallies with our own; viz: that imperfect house drainage is a general evil in the poorer districts of cities. It certainly prevails throughout all large cities, but not to the same extent in some districts as in others. Wherever you find a section of the city closely built upon, abounding in small houses, (with smaller yards, and in some cases, no yards at all,) and confined streets and alleys, there you have defective drainage, and with this defective drainage, you have an atmosphere congenial to the production and spread of diseases, epidemic or otherwise.

Under the head of house drainage the author enters into a very minute and efficient examination of the bad effects arising from the existence and accumulation of cesspools in cities, and says,

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that "it may be taken as an axiom for the purposes of sanitary improvement, that every individual cesspool is hurtful to its vicinage."

This cesspool question is one worthy of public and scientific attention. None will deny but that, at present, it is a *necessary* nuisance. In London, the evil from this source is alarming. It is bad enough in our American cities, where human ordure is deposited in partially closed, but porous sinks. But in London, according to the report of Dr. Simon, "the extreme injury which it inflicts on the health of the population, and the vital necessity of abating that injury, "has claimed the attention of his countrymen for the last ten years." In some districts he describes the numbers to be so great as resembling a cesspool city excavated beneath the city itself.

It has been a prevalent and favorite idea with us, that the present method of constructing cesspools was hurtful to health, but any improvement on the existing faulty system has been slow to work its way into popular notice.

We should take pleasure in pursuing the subject of Dr. Simon's essays still further, and to present our readers with a more elaborate and detailed notice of their truly useful contents, but the limits of our Monthly forbids other than a hasty glance.

Finally, we would that the same spirit which animates the author of the volume before us, might be infused into the minds of those who have the lead in the municipal affairs of our large cities. The good results that would thereby be effected in the improved system of sanitary enactments, by the adoption of a well regulated *health police*, would be of incalculable benefit.

This collection of reports ought to find a place in all our public libraries, and be put into the hands of the chiefs of each department of the municipal government of our principal cities.

W. J.

An Outline of Medical Chemistry, for the Use of Students. By B. Howard Rand, A.M., M.D., Professor of Chemistry in the Philadelphia College of Medicine, etc. Philadelphia: Lindsay & Blakiston. 1855.

This little work is intended as an outline sketch to assist the medical student in acquiring a knowledge of this most necessary

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science. It contains an extremely laconic abridgement of the usual systematic course, as met with in the text books most in use in our colleges, attention being more particularly paid to those combinations that are used in medicine, and are officinal in our Pharmacopœia, to which work it may form a useful companion in those cases in which the student wishes to obtain a rapid survey of the field of medical chemistry.

The Principles and Practice of Obstetrical Medicine and Surgery, in reference to the process of Parturition, with sixty-four plates and numerous wood-cuts. By FRANCIS H. RAMSBOTHAM, M. D., &c. A new American edition, revised by the author. With Notes and Additions by WILLIAM V. KEATING, M. D., A. M. &c., Philada. Blanchard & Lea, 1855.

Few reprints from the British press have ever met with more favor from American practitioners than the above work of Dr. Ramsbotham. "Chaste in language, classical in composition, happy in point of arrangement, and abounding in most interesting illustrations," the emphatic language applied to it by Professor Hodge, so well expresses its deserts that we consider it unnecessary to dwell further upon them. The present edition is rendered even more valuable than the previous one, from the additional material published in the interval, so that it may now be considered one of the best summaries of the principles and practice of obstetrics in the English language.

Dr. Ramsbotham devotes a long article, 26 pages, to the history and effects of anæsthesia in labor. "Hitherto," he says, "I fear we have seen too much of the bright side of the picture; the feelings and imagination have been allowed to outstrip the judgment; and the glorious anticipations indulged in have, by their dazzling lustre, unfitted the mind for patient analytical examination. But the period has now arrived, when, from the facts collected, a dispassionate opinion may be formed; when the excitement of the novel, bold and startling idea having passed away, over-zeal may be tempered by discretion, and prejudice corrected by calm, sober, and philosophic reasoning." A discussion of the effects of anæsthetic agents upon the health of both mother and child follows this preamble, which our limits alone prevent us

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om giving more in detail. The action of chloroform is divided, pon the authority of Dr. Snow, into five stages or degrees. In he 1st, there is a kind of inebriation, which is usually agreeable, onsciousness to surrounding objects, remaining, however, unim- aired. In the 2d the mental functions are impaired, but not ntirely suspended; consciousness is no longer correct, and a dreamy state, analogous to delirium, supervenes. The patient is not *dead drunk*, but only in the state described by the law as *drunk and incapable.* In the 3d stage, all voluntary motion is paralysed; the mental functions are completely in abeyance. It does not follow, however, that an operation may be commenced immediately the narcotism reaches this degree, for anæsthesia is not a necessary part of it. The fourth degree brings with it relaxation of the voluntary muscles, with complete insensibility to external impressions, so that no pain is felt even on the infliction of severe personal injuries. The breathing is not unfrequently attended with some degree of stertor. The fifth degree is the *commencement of dying.* Dr. R. argues the great danger of chloroform, from the fact that perfect freedom from pain cannot be expected, unless the fourth degree be induced, when sensibility as well as sensation and muscular motion, is completely destroyed; "two or three more sniffs voluntarily allowed and the fatal gulf is crossed." It is also, a cumulative medicine; its effects increasing after its administration has been discontinued. These and the unequal susceptibility of patients to its influence, and its incompatibility with serious disease of the circulatory or respiratory organs, are the principal reasons brought forward against its use. Besides death, which has assuredly, he says, occurred from its administration, many minor casualties may be apprehended from its action. Three instances of puerperal mania have come within his own knowledge, which were induced by it. Paralysis, hysteria, and epileptic fits are also occasionally caused by it. The condition that must exist before a patient can be rendered oblivious to the sufferings incidental to her situation, he says, emphatically, "is not sleep, but drunkenness; the only kind of sleep, if sleep it can be called, in the least degree analogous to it, is that death-like insensibility into which a person is hurled when stupified by spirituous liquors; a state but little removed from apoplexy; and which indeed in very many instances has

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eventuated in a seizure of that dreadful malady." There are only one or two contingencies in which he can even imagine its influence to be applicable. When the fœtus lies transversely in utero, the membranes having been ruptured for some hours and the patient obstinately refuses to submit to delivery, he should deem it his duty to employ etherization, taking advantage of its effects to perform the operation. The same principle would guide him in some other operative cases where the forceps were required, and their application perseveringly resisted.

Such are the opinions of our author concerning anæsthesia in labor. It is but proper that we should remark that the American editor enters a warm protest against them. As his experience, however, has been entirely confined to *ether*, while Dr. Ramsbotham's arguments refer to chloroform, we shall not discuss his conclusions.

As we stated previously, the work has been considerably enlarged by the author since the last issue. The additions of the American editor, which cannot, both from their number and value, but prove acceptable to the reader, consist in a description of the inclined planes of the pelvis; generation; signs of pregnancy; fœtal circulation; the mechanism of labor; the employment of anæsthetics, to which we have just referred; the use of ergot, &c., and other matters unnoticed by the author. The printing, paper and illustrations deserve the highest commendation.

AMERICAN MEDICAL ASSOCIATION.

TUESDAY, MAY 1st, 1855.

The session was opened at 11½ A.M., by the President, Dr. C. A. POPE, of St. Louis, taking the Chair; Drs. N. S. DAVIS, of Illinois, and John GREEN, of Massachusetts, Vice Presidents, occupied seats on either side; Secretaries, Dr. FRANCIS WEST, of Philadelphia, and Dr. E. S. LEMOINE, of St. Louis.

The President called the Association to order, and announced that the first order of business was the reception of the report of the Committee of Arrangement on the Credentials of Members.

Dr. Hays, Chairman of that Committee, before presenting the report, begged leave on behalf of the medical profession of Philadelphia, to greet the members with a sincere and cordial welcome, and to assure them that every endeavor had been made to affect such arrangements as would facilitate the deliberations of the Association, promote the com-

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orts of its members, and render their sojourn in Philadelphia agreeable. This, he stated, was a duty incumbent on the profession of this city and equally a gratification to them to execute. "Eight years," he said have elapsed since the Association was here organized, and our brethren in every city in which the Association has since met, have received our Delegates with a generous and munificent hospitality which we dare not aspire to rival, and can scarcely hope to approximate. Should our effort then fall short of fulfilling our wishes, I must beg you to, at least, accept the assurance that it is our earnest desire to do everything in our power to demonstrate our profound respect for the assembled wisdom of the noblest of Professions."

Dr. Hays reported that 337 Delegates had already registered, and stated that the Committee of Arrangements were now in session, and busily engaged in the performance of their duties.

As the next order of business was the calling of the roll, Dr. H. hoped that the reading of the report would be dispensed with as unnecessary, which was acceded to.

The roll was then called by the Secretary, Dr. West, 337 Delegates answering to their names.

The President, Dr. Chas. A. Pope, being, on motion, invited to address the Association, spoke as follows:

[We omit the first part of the address.]

The object of this Association is to do something to advance the profession towards the far-distant goal of perfection—to aid the solution of some of the problems and enigmas of life and organization—to add some material to the growing temple, whose foundations were so firmly laid by the Coan sage—and to do its part, as best it may, in the cause of humanity. Nor do I think that, so far, it has altogether failed. Many valuable contributions to science have been elicited—professional ambition has been stimulated, an *espirit-de-corps* has been successfully evoked and established. The strength of the profession has acquired additional power by the union of its members. This association has been to physicians what the railroad and electric wires are to commerce, and the interchange of useful knowledge to States and nations. It has made us one, and, as I have just remarked, in unity there is power.

This association has stimulated thought. Chaotic and void would forever remain the masses of facts, accumulated by the observations of ages, but for the co-ordinating and logical power of reason. It sits in judgment on the silent phenomena, as a "refiner of fire, and a purifier of silver." It forces the voiceless facts to mount the tripod of the oracle, and speak forth words of wisdom. The scalpel, the crucible, the microscope, may be subsidiary to its purposes and ends, but they cannot supply its place. Fixed and patient thought in medicine, as in the other departments of science, is the Aladdin's lamp that lights the footsteps of the discoverer. To stimulate attention and thought, is to accelerate many a new discovery, to hasten the advent and establishment of important principles yet in the womb of the future. May not our Association do this more effectually than it has hitherto done?

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Let all the contributions be read and attentively considered. Such a course would certainly be more encouraging, as well as more respectful, to their authors. Let the reports be deliberately and fully discussed, and let them go forth to the world with the sanction or the criticisms of the Association. This would require time, it is true, but if we have time to meet at all, surely a few days would make but little difference. The good that would be effected would yield a ten-fold compensation for the time employed. Every one must admit that three or four days is too short a time for the Association rightly to fulfil its annual mission.

I would, moreover, respectfully suggest that time be taken for the discussion of some of the leading topics of medical philosophy. Amongst these, may be mentioned the nature, causes and treatment of cholera, yellow fever, et cetera—Hygiene, and the laws of health affecting masses of men—Quarantine—the causes of mortality among children—the chemical and vital doctrines of life. Questions like these, indicated a year in advance for discussion, would excite a carefulness of investigation, and a degree of attention and thought, which could not fail to clear away much of the darkness and doubt in which they are yet shrouded. Nothing so sharpens the intellectual powers as public debate. It fixes attention, and strains to the utmost every faculty. I have no hesitation in saying that facts enough have been accumulated to establish great and general principles, of which the medical world is yet in ignorance or doubt. Nothing would contribute more to demonstrate these principles than the collision of matured intellects in public debate. What a mass of facts and arguments and demonstration would be brought to bear on any of the subjects alluded to, if some of the best minds in the profession were to debate them, after a year's preparation! Observed facts are the crude materials of science—the intellect is the master builder of its august temple.

I make these suggestions for your consideration. All the scientific meetings in this country and in Europe, employ more time than ours has hitherto employed. Evidently we must protract our sessions, if we would render them as serviceable to science as they may be. No member of the Association will be required to remain longer than suits his wishes or convenience. Some fifty or sixty, more or less, would always be found to listen with eagerness to scientific papers, and engage with pleasure in scientific discussions.

The time has probably arrived for a change in our plan of organization, which will admit of the selection of a permanent place for the future meetings of the Association. There are evident advantages incident to both the migratory and stationary plans. These might, perhaps, be easily reconciled and secured. A proposition, if I mistake not, was made some years ago, by the Smithsonian Institution, and I would respectfully suggest, whether it would not be in accordance with the best interests of the Association, to hold biennial meetings in Washington, and the alternate ones, as now, at different points of our common country. We might thus secure all the advantages of a fixed abode, in the way of preserving the archives, making collections, etc., whilst by meeting in various localities, we could not fail to excite that wide-spread

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interest among the profession, and obtain such accessions of new members as would greatly enhance the high and useful objects of our Association. Should this proposal meet with your approbation, I would further intimate, that policy would perhaps require the meetings of the Association at the National Capital, to be held in the years of the short sessions of Congress.

I shall say but little of the legislative duties of the Association. I shall say nothing of the propriety or impropriety of getting laws passed to regulate the practice of medicine, and furnish standards for candidates for the doctorate. Perhaps the Association can do but little in this respect. Ours is a popular government, and the people are disposed to allow the largest freedom in everything pertaining to medicine, medical schools and physicians. Laws passed against quackery one year are revoked the next. Our country is the paradise of quacks. All good things have their attendant evils, and this unbridled liberty is one of the evils of a popular government. May we not hope, however, that even this evil may disappear, as general education and the cultivation of the masses advance? At any rate, the people are not yet disposed to put down the quacks, nor to require too high a degree of qualification for those of the regular profession. After all, laws can make only mediocre physicians. They can require the candidates to know only so much—to be qualified to a certain degree; and this degree will always be far lower than that to which the true lovers of knowledge would attain, without any legislation on the subject. The greater lights of the profession cannot be manufactured after any process of legislative enactment. Thirst of knowledge, self love, philanthropy, burning ambition—these make the great physician and surgeon. These have made all the worthies of the past—not legislation. Legislation cannot drive the drone to the proud heights of professional eminence. When these heights are reached, it will be seen that the successful aspirant has been stimulated by a stronger power.

To him the laurel blossoms of renown and the life-giving mission of his art, are dearer and more attractive than was the mystic bough of the sibyl to the eager Æneas, or than the golden apples, guarded by sleepless dragons, to the Hesperian daughters.

What ever course you may think proper to pursue, I am sure that your objects will be, the advancement of science—the good of mankind—the honor and glory of the profession. We have the dignity and character of a noble calling to sustain—of a profession which has numbered, for two thousand years and more, some of the wisest and best men in all countries and all times. It is no trivial matter to sustain the rank and respectability of a vocation which can boast of a Hippocrates—a Harvey—a Hunter—of the most erudite and beneficent of sages and philanthropists the world ever saw—of a profession which has furnished to every nation its *clarum et venerabile nomen*.

On the eve of the battle of the pyramids, Napoleon exclaimed—"Soldiers! from the height of yon monuments, forty centuries look down upon you." Gentlemen, from the heights of past ages, countless worthies of our God-like profession point and beckon to a goal more

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elevated than that which attracts legislators and conquerors, Solons and Cæsars.

On motion of Dr. J. B. Biddle, the thanks of the Association were tendered to the President, Dr. Pope, for the able and eloquent address just delivered; and that a copy of it be requested for publication.

Dr. Hays stated that the Committee of Arrangements had agreed upon certain arrangements which would need the consent of the Association. He moved that the sessions of the Convention be held from 9 A.M. to 3 P.M., with one hour recess each day, from 12 M. to 1 P.M. Agreed to.

Dr. Hays then stated it was proposed by the Committee of Arrangements that the members of the Association should visit *this* afternoon the Pennsylvania Hospital for the Insane; on *Wednesday* afternoon, Girard College and Fairmount; on *Thursday* afternoon, Philadelphia Hospital, Blockley; on *Friday* afternoon, the Asylum for the Blind; and that arrangements had been made for conveying the members to those institutions.

Dr. Hays further stated that the Mayor of the City invited the Association to a reception at Independence Hall, at noon on Wednesday; and that invitations had been extended to the members to visit, at their convenience, the principal Public Institutions of the city, to all of which admission would be had on exhibiting their cards of membership.

Dr. J. B. Biddle moved that a recess be taken to allow the nomination of one from each State to serve as a committee to report nominations for permanent officers of the Association. Agreed to. The Association then took a recess, while the delegations assembled in various parts of the room.

Upon the re-assembling of the Association, Dr. D. F. Condie moved that all permanent members who, through want of notification, had not paid the amount for which they were assessed, but who had subsequently paid, be reinstated as permanent members of the Association.

Dr. Watson moved to amend the motion as follows:—

Resolved, That no member of the Association shall be deprived of his privilege as a permanent member by not contributing to pay the expenses of an annual meeting at which he is not present.

Dr. White, of Buffalo, moved that the whole subject be referred to a committee of three. Agreed to.

The Chairman appointed Dr. White, of Buffalo, Dr. Watson, of New York, and Dr. Condie, of Philadelphia.

The names of the different States were then called, each one reporting the name of its representative on the nominating committee as follows:

Committee on Nominations.

Maine.—A. J. Fuller.
New Hampsaire—Silas Cummings.
Vermont.—G. T. Elliott.
Massachusetts.—C. P. Fiske.
Rhode Island.—Jos. Mauran.
Connecticut.—P. A. Jewett.

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New York.—John McCall.
Pennsylvania.—J. B. Biddle.
New Jersey.—Lewis Condict.
Delaware.—James W. Thompson.
Maryland.—Charles McGill.
District of Columbia.—Thomas Miller.
Virginia.—R. B. Welford.
South Carolina.—P. C. Gaillard.
Georgia—Richard D. Arnold.
Alabama.—P. H. Cabell.
Tennessee.—J. Berrien Lindsley.
Kentucky.—C. J. Blackburne.
Ohio.—R. Hills.
Indiana.—Joel Pennington.
Illinois.—J. V. Z. Blaney.
Michigan.—A. B. Palmer.
Missouri.—L. P. Perry.
Iowa.—J. E. Sandbourne.
Wisconsin.—J. B. Dousman.
North Carolina.—O. F. Manson.

Dr. F. C. Stewart, of New York, offered the following resolution:

Resolved, That the Nominating Committee be instructed to present three names to the Association as candidates for the office of President, who shall be elected by ballot; and the candidate who shall have the smallest vote, shall be withdrawn after the first ballot.

It was moved that the resolution be laid upon the table. Agreed to.

On motion of Dr. Atlee, it was Resolved, that the Nominating Committee be instructed to recommend a place for holding the next annual meeting of the Association.

Invitations to this effect were extended respectively by Dr. Pitcher, of Michigan, on behalf of the medical profession of Detroit; by Dr. Foster, of Tennessee, on behalf of the profession of Nashville; and Dr. Brainard, of Illinois, on behalf of the profession of Chicago. These invitations were, on motion, referred to the Committee on Nominations.

Dr. F. A. Ramsay moved that so much of the President's address as relates to the place of holding meetings of the Association, be referred to the Committee on Nomination.

Dr. D. D. Thompson, of Kentucky, moved that the regular order of business be dispensed with, to take up the amendments to the Constitution offered at the last annual meeting.

Several members objected, and the motion was lost.

The next business in order was the reception of "members by invitation."

On motion of Dr. Condie, the names of all "members by invitation" were referred to the Committee of Arrangement.

The President announced that the next business in order was the Reports of the different Standing Committees, appointed at the last annual meeting.

A report was received, through Dr. La Roche, from the Committee

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on Prizes. The report stated that the Committee had received six essays in competition for the Prize offered by the Association. But, although these essays evinced much ability and extensive learning, but one was decided to possess those qualities which deserved the award of the prize. The essay was entitled "Statistics of Placenta Prævia." The name of the author was announced as Dr. James D. Trask, of White Plains, New York. [Applause.]

On motion of Dr. Condie the report was accepted, and the Prize Essay was referred to the Committee on Publication.

Dr. Thomas Reyburn, Chairman of the Committee on Epidemics of Missouri, Iowa, Illinois and Wisconsin, submitted a voluminous report, the abstract of which occupied a long time in reading.

On motion, the report was referred to the Committee on Publication.

Dr. White, from the committee to whom was referred the resolutions in regard to the permanent members, submitted a report, recommending the adoption of the following resolutions:

Resolved, That upon no permanent member, who is not present at a meeting of the Association, shall be assessed the annual contribution; but no one shall be entitled to receive a copy of the printed *Transactions* unless he pay into the treasury a sum not less than the annual assessment paid by the delegates and permanent members in attendance; and that all the names of permanent members that have been left off the published list, be reinserted therein in the next volume of *Transactions*.

Resolved, That no assessment whatever shall be made against members by invitation, but that they also be entitled to a copy of the printed *Transactions* by paying the sum assessed upon delegates in attendance.

Dr. Sanford B. Hunt, of Buffalo, N. Y., from the Committee on the Hygrometrical State of the Atmosphere in various localities, and its influence on health, submitted a report, pending the reading of which the hour of adjournment arrived, and the Association adjourned to meet tomorrow morning at nine o'clock.

SECOND DAY, MAY 2d.

The Association assembled at 9 o'clock. The minutes of the meeting of the preceding day were read and approved.

Dr. Condie moved that the Secretaries of this Association be requested to afford every facility possible to the reporters of the public press, to enable them to furnish full and accurate reports of the transactions.

Dr. Atlee, of Lancaster, asked and received permission to make a statement. At the meeting of the Association at Richmond, a resolution was passed, authorizing the appointment of a committee to procure a suitable stone for the Association to contribute to the Washington Monument, at Washington City, D. C. The Committee had made an assessment of $1 upon each member to purchase the stone and pay for the sculpture. Dr. Pierson, of Salem, Mass., had recommended as a design for the sculpture, "Hippocrates refusing the bribe offered by the King of Persia to visit the Court of that Prince, and give medical aid to the subjects of his Empire—when the great father of medicine said—'Tell your master that I am rich enough; that honor will not allow me to succor the enemies of Greece.'"

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The sculpture was executed by a young man named John Augustus Beck, only twenty-two years of age. Eminent artists speak very highly of the work, which gives great promise of future eminence. Mr. Beck has been encouraged to go to Italy for study.

A resolution was offered, to the effect that no member should speak unless his name and residence were announced. Adopted.

Dr. J. B. Biddle, the Chairman of the Committee on Nominations, reported the following unanimous nominations :—

President—GEO. B. WOOD, M.D., of Pennsylvania.

Vice Presidents.—WM. M. BOLING, of Alabama; DANIEL TILDEN, of Ohio; D. HUMPHREYS STORER, of Massachusetts; GRAFTON TYLER, of the District of Columbia.

Secretaries.—FRANCIS WEST, of Pennsylvania; R. C. FOSTER, of Tennessee.

Treasurer.—CASPAR WISTER, of Pennsylvania.

Committee on Publications.—FRANCIS G. SMITH, of Pennsylvania, Chairman; FRANCIS WEST, of Pennsylvania; SAMUEL L. HOLLINGSWORTH, of Pennsylvania; H. S. ASKEW, of Delaware; SAMUEL LEWIS, of Pennsylvania.

The committee also recommended, but not unanimously, Nashville, Tennessee, as the next place of holding the annual meeting.

On motion of Dr. Post, of New York, it was

Resolved, That the question of the confirmation of the officers, and of the place of meeting, be taken separately.

So much of the report as related to the nomination of officers, was then, on motion of Dr. Rogers, of Pennsylvania, adopted.

On motion, of Dr. White, of New York, it was

Resolved, That a committee of five be appointed to inform the President and Vice-Presidents elect, of the choice of the Association, and to conduct them to their respective seats.

The chair appointed Drs. J. M. Smith, of New York; Blackburne, of Kentucky; Homans, of Massachusetts; Rouse, of Illinois; and Frost, of South Carolina. The officers were then conducted to their seats by the committee.

On taking the Chair, the President, Dr. Wood, expressed in a neat speech, his thanks to the Association for the honor conferred upon him.

On motion of Dr. Biddle, of Pennsylvania, the thanks of the Association were tendered to the retiring President, Dr. Charles A. Pope, for the able and efficient manner in which he had discharged his duties.

Dr. Post, of New York, moved that the next place of meeting be the City of Washington.

Dr. Watson, of New York, moved, as an amendment, to substitute the City of Detroit for Washington.

Dr. L. A. Smith, of New Jersey, moved, as a further amendment, the substitution of Nashville for Detroit.

After some discussion, Detroit was selected as the place for the next meeting.

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Dr. Foster, one of the newly elected Secretaries, tendered his resignation, which was, on motion, accepted.

Dr. Brodie, of Michigan, was then chosen to fill the vacancy.

The further consideration of the report of Dr. Sanford B. Hunt, of New York, upon the Hygrometrical State of the Atmosphere in various localities, was resumed.

Dr. Hunt read an abstract of his report, which was very interesting, and was listened to with a great deal of attention. It abounded in facts and statistics, illustrating the influences of the changes in the atmosphere, particularly with reference to epidemics, and deduced several laws as governing a certain class of epidemics.

On motion, the report was referred to the Committee on Publication.

Dr. Frank H. Hamilton, of Buffalo, N. Y.; then submitted a report upon the Frequency of Deformities in Fractures. The report was accompanied with voluminous statistics. The main object of the report was the demonstration of the impossibility of the union of fractures without distortion.

Dr. Hamilton said he had a word to say, but not in connection with the report. It was necessary to do something to arrest the frequency of the prosecutions for mal-practice. The frequency of these prosecutions no longer surprised the members of the profession. They had become familiar. What occasions this frequency? Is it because there are jealous and designing men among the profession? There are a few, no doubt. But, upon the whole, no profession stands by itself as well as the medical profession. Is it the fault of the lawyers? Lawyers occasionally might have something to do with encouraging the prosecutions; but this would not account satisfactorily for the evil complained of. The speaker thought the reason could be found in the imperfection of the art, and the reluctance of the profession to admit those imperfections. Members would assure the world, for instance, that a fractured femur could be united without shortening the limb—which was simply impossible. He trusted that the profession would be wiser in the future, and acknowledge that they could not perform impossibilities. Even that city of medical science, Philadelphia, had not produced a book which could instruct physicians how to unite a fractured femur without shortening the limb.

The report was referred to the Committee on Publications, and the Committee, at the request of Dr. Hamilton, continued.

Dr. Charles Hooker, of New Haven, Conn., submitted a report upon "Diet for the Sick." The report lays down laws for the government of diet under various diseases, and specifics particular articles which may be given with benefit. Referred to the Committee on Publications.

On motion, a resolution was adopted, returning the thanks of the Association to the retiring Vice Presidents, Secretaries and Treasurer.

An invitation to visit the Central High School to-day, at noon, was accepted.

A resolution was adopted, returning thanks to railroad companies that had given commutation tickets to members of the Medical Association.

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On motion of Dr. Hintze, it was

Resolved, That a committee of one from each State be appointed by the chair to use their influence with the railroad and steamboat companies, in their respective States, to issue commutation tickets to the delegates to the American Medical Association, and their immediate families, who may design attending the meeting of the Association in May, 1856.

The following were appointed the committee:—

Maine.—E. R. Peaslee.
New Hampshire.—Josiah Crosby.
Vermont.—J. Perkins.
Massachusetts.—J. Homans.
Rhode Island.—Joseph Mauran.
Connecticut.—P. A. Jewett, *Chairman.*
New York.—James P. White.
Pennsylvania.—Francis West.
New Jersey.—Lyndon A. Smith.
Delaware.—James W. Thompson.
Maryland.—F. E. B. Hintze, *Sec.*
District of Columbia.—Grafton Tyler.
Virginia.—B. R. Wellford.
North Carolina.—O. F. Manson.
South Carolina.—R. F. Michel.
Georgia.—Richard D. Arnold.
Alabama.—William M. Boling.
Tennessee.—J. B. Lindsley.
Kentucky.—C. J. Blackburne.
Ohio.—Daniel Tilden.
Illinois.—Rudolphus Rouse.
Missouri.—Charles A. Pope.
Iowa.—J. E. Sanborn.
Wisconsin.—J. R. Bartlett.
Michigan.—Zina Pitcher.

On motion, the Association adjourned to Independence Hall.

The Medical Association at Independence Hall.—About five minutes past twelve o'clock, the members of the Association entered Independence Hall. A number of ladies were already present, and the Hall was soon crowded to its utmost extent. [We have not space to publish the eloquent speeches of Dr. Hays and Mayor Conrad.]

AFTERNOON SESSION, 1 P. M.

On motion of Dr. Davis, of Illinois, the thanks of the Association were tendered to the Mayor of Philadelphia for the very cordial manner in which he had received the American Medical Association at Independence Hall, and that a copy of his eloquent speech be published in connection with the proceedings of the Association.

On motion of Dr. Askew, of Delaware, the rules of order were suspended for the purpose of allowing Dr. J. W. Thompson, of Delaware, to offer the following preamble and resolutions:—

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Whereas, That as few subjects of greater interest and importance could be presented to the consideration of the American Medical Association, now representing most of the States and Territories of the Union, than the attainment of a correct Medical Topography of each, with a history of its prevailing fevers and most successful treatment of the same, therefore be it

Resolved, That with this view and conviction, this Association appoint a Special Committee for each State and Territory represented, of ——, members whose duty it shall be to report upon its medical topography epidemic fevers and most successful treatment thereof, and that the same shall continue to hold their office for three years.

Resolved, That as other States and Territories not now represesented, become so by delegates duly appointed to this National Association; that similar committees shall be appointed for like purpose, and that they also shall hold their office for three years.

Resolved, That in the appointment of gentlemen of education and experience in the affairs of their own State, we have the best guarantee that the important objects we seek will be more satisfactorily accomplished, and the profession as well as the public interest will thereby be better served.

Resolved, That the committees heretofore appointed by this Association, at its session in Charleston, for a similar object, be, and the same are hereby discharged.

On motion of Dr. Askew, of Delaware, the foregoing preamble and resolutions were ordered to lie on the table and made the special order for to-morrow at 10 o'clock.

The Committee on Publication submitted their report. The seventh volume of the proceedings of the Association was issued last November, 1000 copies being published, at an expense of $1806 42; 781 copies have been sold or furnished to members of the Association; 35 were given to editors of medical journals, and 184 remain on hand.

In view of the delay in publication which is liable to be occasioned by the reference to the Committee on Publication, of reports and other papers of which abstracts alone are presented to the Association, the committee recommended for adoption the following resolution:

Resolved, That hereafter, beginning with the session for 1856, no report or other paper shall be entitled to publication in the volume for the year in which it shall be presented to the Association, unless it be placed in the hands of the Committee on Publication on or before the first of June.

Dr. Biddle, of Pennsylvania, offered the following resolution, which was adopted:—

Resolved, That the thanks of the Association are eminently due to the Committee of Publication for the faithful and highly satisfactory manner in which their arduous and responsible duties have been discharged.

The Treasurer submitted his annual report:

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Balance in the Treasury at last account, . .	$293 99
Assessment and Sales of Transactions, . .	2722 31½
Prize Fund, ...	200 00
Total, ...	3216 30½
Balance in Treasurer's hands at present, . .	$1115 26

A resolution was adopted, appropriating the sum of $1000 to pay for the stone for the Washington Monument.

Dr. Duhamel, of Washington City, offered a preamble and resolutions returning the thanks of the Association to those Senators and Representatives who took an interest in procuring the passage of the Quarantine bill, the object of which is the better prevention of the introduction of diseases into the country.

The resolutions were adopted.

The Secretary read a paper from Dr. Wm. H. Byford, of Evansville, Indiana, upon Scrofula. This paper gives an account of the nature of the disease, its varieties, causes, effects, and treatment. Referred to the Committee on Publications.

Dr. N. S. Davis, of Chicago, Ill., read a paper upon "The Nutritive Qualities of Milk, and the Influence produced thereon by Pregnancy and Menstruation, in the Human Female, and by Pregnancy in the Cow; and also on the question whether there is not some mode by which the nutritive constituents of milk can be preserved in their purity and sweetness, and furnished to the inhabitants of cities in such quantities as to supersede the present defective and often unwholesome modes of supply." In this report, the various methods of preserving milk are all investigated and explained, and the preference given to that discovered by a gentleman of Rochester, New York. By this method, milk had been preserved for twelve months, with all its nutritive qualities. The solidified milk, prepared by that gentleman, was decided to be the article that had long been a desideratum. Referred to the Committee on Publications. The committee was continued.

The hour of adjournment having arrived, on motion, the Association adjourned.

THURSDAY, MAY 3, 1855.

The Association assembled at 9 A. M., the President, Dr. Wood, of Pennsylvania, in the chair.

The minutes of the last meeting were read and approved.

The President stated that it had been usual to refer the appointment of the various standing committees to the Committee on Nominations. Whereupon, on motion of Dr. Watson, of New York, it was

Resolved, That these appointments be referred to that Committee.

Dr. Hays, of Pennsylvania, presented an invitation from Dr. Ducachet, Rector of St. Stephen's Church, to visit that church and view the "Burd Monuments" therein.

The invitation was accepted, and 12 M. to-day appointed as the time for the visit, and the thanks of the Association directed to be tendered to Dr. Ducachet.

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Dr. Hays also presented an invitation from the Principal and Managers of the Training School for Idiotic and Feeble-minded Children, to visit that Institution on Friday afternoon next. Invitation accepted, and the thanks of the Association directed to be returned for the invitation.

A letter was read from Dr. E. B. Haskins, of Clarkesville, Tennessee, the Chairman of the Committee on Microscopical Investigations of Malignant Tumors, stating that he had not the means of carrying out the object of the Committee, and asking to be discharged, which was agreed to.

A communication was read from Dr. Reyburn, of Mississippi, suggesting that the District, composed of Missouri, Illinois, Wisconsin, and Iowa be divided, and also offering his resignation as Chairman of the Committee appointed to report upon the epidemic of those States, and on motion of Dr. Askew, of Delaware, it was

Resolved, That so much of said communication as refers to the division of districts be referred to the Committee on Nominations, and that the resignation of Dr. Reyburn be accepted.

The Committee on plans of Organization for State and county societies, Dr. A. B. Palmer, of Michigan, chairman, was called, when the chairman stated that the Committee was not prepared to report.

Committee on Medical Literature, Dr. R. J. Breckenridge, of Kentucky, Chairman, was called, when a letter was read from the chairman, stating his excuses for not having his report prepared, and, after considerable discussion, the committee was continued.

Committee on Medical Education, Dr. Wm. H. Anderson, of Alabama, Chairman, was called on, when a letter was read from the chairman, stating his reasons for not having his report ready, and asking to be continued.

After some discussion upon the general question of the propriety of continuing committees who failed to present their reports in time, on motion of Dr. J. L. Atlee, of Pennsylvania, it was

Resolved, That the further consideration of the subject be postponed in order to receive the report of the Committee on Nominations.

Dr. J. B. Biddle, Chairman of this Committee, made the following report:—

The Committee on Nominations, to which was referred the resolutions in reference to the appointment of a Committee on Medical Topography and Epidemics, report the resolutions, with a recommendation that they be adopted.

They recommend the following gentlemen to compose the committee of one from each State and Territory, to be appointed in accordance with the resolutions, viz:—

Maine—J. C. Weston, of Bangor.
New Hampshire—Edmund R. Peaslee, Dartmouth College.
Vermont—Joseph Perkins, of Castleton.
Rhode Island—Joseph Mauran, Providence.
Connecticut—Charles Hooker, New Haven.
Massachusetts—George C. Shattuck, Boston.

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New York—Joseph M. Smith, New York.
New Jersey—Lyndon A. Smith, Newark.
Pennsylvania—Jacob A. Gemmil, Huntingdon County.
Delaware—James W. Thompson, Wilmington.
Maryland—Peregrine Wroth, Chestertown.
Georgia—John F. Posey, Savannah.
Virginia—P. F. Peebles, Petersburg.
District of Columbia—Thomas Miller, Washington.
South Carolina—D. J. Cain, Charleston.
North Carolina—O. F. Manson, ———
Kentucky—Wm. L. Sutton, Georgetown.
Tennessee—E. B. Haskins, Clarkeville.
Louisiana—E. D. Fenner, New Orleans.
Minnesota—J. H. Murphy, St. Anthony's Falls.
Ohio—G. Mendenhall, Cincinnati.
Mississippi—T. J. Grafton, Rodney.
Missouri—S. B. Alleyne.
Michigan—J. H. Beech, Cold Water.
Alabama—S. W. Chanton, Warsaw.
Illinois—John Evans, Chicago.
Indiana—Vierling Kersey, Milton, Wayne County.
Wisconsin—Alfred L. Castleton, Delafield.
Iowa—E. A. Arnold, Davenport.
U. S. Navy—Thomas Dillard, Philadelphia.
U. S. Army—Clement A. Finley.

The committee report that, in their opinion, it is inexpedient to make any change in the Constitution in regard to the time and place of meeting of the Association.

A number of Special Committees were appointed, and the following

STANDING COMMITTEES.

Committee on Arrangements—Dr. Zina Pitcher, of Detroit; Dr. Moses Gunn, do.; Dr. A. S. Leland, Dr. Moses Stewart, Dr. Peter Klein, Dr. J. A. Brown.

Committee on Prize Essays—Dr. A. B. Palmer, of Michigan; Dr. Samuel Denton, Dr. A. R. Terry, Dr. Adam Sager, Dr. S. H. Douglass, Dr. Corydon La Ford, Dr. E. Andrews.

Committee on Medical Literature—Dr. P. C. Gaillard, of South Carolina; Dr. N. P. Monroe, of Maine; Dr. James Couper, of Delaware; Dr. R. Hills, of Ohio; Dr. A. Coffin, of South Carolina.

Committee on Medical Education—Dr. J. Berrien Lindsley, of Tennessee; Dr. J. B. Flint, of Kentucky; Dr. P. H. Cabell, of Alabama; Dr. George Hayward, of Massachusetts; Dr. E. B. Smith, of Missouri.

On motion, the report of the committee was adopted.

The subject of the report of the Committee on Medical Education was taken up, and after considerable discussion Dr. Lindsley, the chairman of the newly-appointed committee on the subject, asked leave to

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resign, and that Dr. Anderson, of Alabama, chairman of the former committee, be appointed in his place.

Dr. Lindsley's resignation was accepted, and Dr. Anderson appointed in his place.

A letter from Dr. W. Hooker, Chairman of the Committee on the Epidemics of New England and New York, was read, in which he points out the defects of the present organization of the Committee on Epidemics, and asking to be discharged from further consideration of the subject.

On motion of Dr. Hays, the letter was referred to the Committee on Nominations.

Dr. F. H. Hamilton, of New York, asked and obtained leave to make some remarks on fracture of the clavicle, supplementary to his report made yesterday.

The special order of the day, the resolutions in reference to the appointment of Committees on Medical Topography, offered by Dr. Thompson, of Delaware, was taken up.

After some remarks by Dr. Thompson, advocating their adoption, Dr. Askew, of Delaware, offered the following additional resolution, which was accepted by Dr. Thompson:—

Resolved, That all reports on the Medical Topography and prevailing diseases of the States, shall, to entitle them to be received by this Association and published in the Proceedings, be first approved by the medical societies of the State or Territory where such Societies exist, and to which State or Territory such report refers.

The preamble and resolutions were then adopted.

Dr. J. G. Orton, of Binghamton, New York, read a series of resolutions which he had prepared in reference to the same subject. They were as follows:—

Resolved, That each County Medical Society (or, in parts of the country where such societies have not been established, any duly organised medical association), be invited to amend their constitutions by attaching thereto the following article: "It shall be the duty of each member of this Society to keep a faithful record of the diseases which may fall under his observation during each month, according to the classification adopted by this Convention in May, 1847, stating the age, sex, occupation and nativity of the patients, the average duration of the disease, and, finally their recovery or death, and to report the same in writing to the Secretary, on or before the first day of February of each year, who shall transmit a digest thereof to the State Medical Society, and also to the appropriate committee appointed by the American Medical Association for its reception."

Resolved,—That each incorporated Hospital, Infirmary, and Asylum, be invited to furnish a copy of their annual reports for the use of the committees of their respective States.

Resolved, That the State Committee appointed by this Association to report upon the prevailing diseases of their respective localities, shall receive and arrange a digest of the reports transmitted by them to the Secretaries of the various county societies, and report the same at the annual meeting of this Association.

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Resolved, That the first day of January be the time fixed at which the object of these resolutions shall be carried into effect, and that the several county societies and associations be requested to amend their constitutions as heretofore recommended, at as early a date as practicable, and to report to the State Committee their willingness or unwillingness to acquiesce in the request of this Association.

On motion, the resolutions in reference to this subject were referred to the Committee on Nominations.

On motion of Dr. J. L. Atlee, of Pennsylvania, the Chief Justice of the State, the Hon. Ellis Lewis, who was present, was invited to take a seat on the platform.

The President stated that Dr. D. J. Cain, appointed to report on the epidemics of South Carolina, Florida, Georgia and Alabama, was confined at home by sickness.

The Committee on the Epidemics of Tennessee and Kentucky, not being ready to report, was continued.

A letter was read from Dr. Fenner, appointed to report on the epidemics of Louisiana, Mississippi, Arkansas, and Texas, stating that his report was in progress.

On motion, the committee was continued.

Dr. D. Francis Condie, to whom was referred the subject of tubercular disease, stated that he had been engaged for a period of nearly three years in examining and arranging a report on this subject. The report will occupy at least five hundred pages, and one reason which has caused it to swell to so great an extent, is, that he found it necessary to contradict a large number of statements and reports on the subject. He hoped that the Association would excuse him in not being quite ready with his report. He had prepared a digest of its contents, which in fact is merely an index to the whole, and would not of itself repay for the time used in reading it. He expressed a desire that the Association would excuse him.

Dr. Altee moved that Dr. Condie do just as he please, with his paper, without any obligation he may consider himself under to the Association. The motion was agreed to.

The Committee on Dysentery, Dr. Henry Taylor, of Mt. Clemens, Michigan, chairman, presented, through Dr. Beech, an abstract of the report which was read, and, on motion, the report was referred to the Committee of Publication.

The Committee on Hydrophobia and the Connection of the Season of the Year with its Prevalence, Dr. T. W. Blatchford, of New York, chairman, presented a partial report, which was read, and, on motion of Dr. Smith of New York, the committee was continued.

The hour for recess having arrived, Dr. Hays, on behalf of the Committee of Arrangement, begged to state that St. Stephen's Church, in which were the beautiful monuments by Steinhauser to the Burd family, was open for the inspection of the members of the Association, as were also the Galleries of the Academy of Fine Arts, the Museum of the Academy of Natural Sciences, and the Museums of the different Medical Colleges, and invited the members to visit them. He also reminded

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the members that this was the time appointed to visit the High School, and such as desired to do so could visit that useful Institution.

MAY 3—1 P. M.

Association reassembled, the President, Dr. Wood, in the Chair.

Dr. R. D. Mussey, of Ohio, the Committee to examine into, and report upon, the effects of Alcoholic Liquors upon the system in health and disease, read his report, which was, on motion, referred to the Committee on Publication.

On motion of Dr. Thomas, of Maryland, the resolution referring the report on Medical Literature to the Committee of Publication was reconsidered, when, on motion of Dr. Gibson, of Virginia, the further consideration of this subject was postponed until to-morrow.

On motion of Dr. Jewett, of Connecticut, it was

Resolved, That a Committee of one from each State be appointed to report upon a uniform system of marriages, births and deaths, which resolution was referred to the Committee of Nominations, to report the names of the Committee.

The hour of adjournment having arrived, Dr. Hays, on behalf of the Committee of Arrangements, stated that omnibuses would be in waiting at 4½ P. M., to convey the members and the ladies of their party to the Philadelphia Hospital, Blockley.

The Association then adjourned.

FRIDAY, MAY 4, 1855.

The Association met this day at 9 A. M., the President, Dr. Wood, of Philadelphia, in the Chair.

The minutes of the last meeting were read and approved.

Dr. Atlee offered a resolution that Dr. Breckenridge's report on Medical Literature be referred to a special committee, to be read, and if approved by said committee, then that it be referred to the Committee on Publication. The motion was lost.

A motion was then made and adopted, that the Committee on Medical Literature be continued to report at the next meeting of the Association.

Dr. Hayward, of Boston, offered the following, which was adopted unanimously:—

Resolved, That the thanks of this Association be presented to his Honor the Mayor, and the other officers of the city government, and the citizens and physicians of the city of Philadelphia, for their kind and continued attentions, and munificent hospitality to the members of this Association during its present session.

Dr. J. L. Atlee, of Pennsylvania, presented and read a report, on behalf of the committee appointed at the last annual meeting of the Association, and to which was referred the essay of Dr. Phelps, of New York, on "Religion as an Element in Medicine, or the Duties and Obligations of the Profession," and also the communication of Dr. R. S. Bailey of South Carolina, on the same subject, with instructions to consider and report on the expediency of publishing the same. The report was accompanied by the following resolution:—

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Resolved, That it is inexpedient to publish in our *Transactions* the Essay of Dr. Phelps.

The committee state that, having expressed their sentiments on the subject, they beg to be discharged from the further consideration of Dr. Bailey's paper.

After a brief discussion, the previous question was demanded and sustained, and the report was accepted, the accompanying resolution adopted, and the request to be discharged granted.

A printed paper on Cholera, by Dr. Knapp, of Cincinnati, was presented, but as it had been already published, it was not deemed expedient to occupy the time of the Association by having it read.

Dr. J. L. Atlee, of Pennsylvania, stated that the Academy of Fine Arts had offered to take charge of the stone for the Washington Monument, and offered a resolution that a vote of thanks be tendered to the Managers of the Academy of Fine Arts, for their liberal offer to take charge of the stone for the Washington monument, until its delivery at Washington, which was adopted.

Dr. Charles Hooker, of Connecticut, offered the following amendment to the Constitution, which, under the rules, lay over until the next annual meeting of the Association.

"Any permanent member who shall not pay for the published *Transactions* for three successive years, shall be considered as withdrawn."

Dr. N. S. Davis, of Chicago, Illinois, submitted the following preamble and resolutions:—

Whereas, The present mode of conducting the annual meetings of the Association affords but little opportunity for the discussion of truly scientific questions and papers, and

Whereas, This has been regarded as a serious defect in the operation of our organization, impairing its scientific character, therefore

Resolved, That the daily sessions of the Association, during each annual meeting, be divided into two parts—the first to terminate at an hour not later than 12½ o'clock P. M., each day, and to be devoted as heretofore, to the general business of the Association—the second, consisting of all the time which it is deemed advisable to remain in session each day, after 12½ o'clock, P. M., to take the character of a scientific session, and to be devoted exclusively to the discussion of questions relating to the science and art of medicine.

Resolved, That the Association, in its capacity of a scientific session, having no power to act on any subject except of a scientific character, may continue in session, whenever thought advisable, a longer period than in its more general capacity.

Resolved, That the foregoing preamble and resolutions be referred to the Committee of Arrangements, with instructions to report on the same at the commencement of the next annual session.

Dr. C. G. Comegys, of Ohio, offered the following preamble and resolutions, which were, on motion, referred to the Committee on Nominations.

Whereas, The American Medical Association, though devoting itself ardently to the interest of medical science, is unable to accomplish all

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its aims for the promotion of the usefulness of the profession in society without the aid of legislation, therefore

Resolved, That the members of the medical profession throughout the Union be urgently requested to take immediate and concerted action for petitioning their several legislative bodies to establish offices for the collection of vital statistics.

Resolved, That for the purpose of securing an ample number of petitioners for this object, this Association suggests that every member of the profession shall endeavor to secure the names of his personal friends.

Resolved, That a copy of the above resolutions be transmitted at once to the several State societies.

Dr. A. J. Semmes, of Washington, D. C., offered the following, which was adopted :—

Resolved, That a committee of three be appointed to report to the Association, at its next annual meeting, what measures should be adopted to remedy the evils existing in the present methods of holding coronor's inquests, by incompetent persons, by which the lives and liberties of the innocent may be jeopardized, and the ends of justice frustrated.

The President appointed Dr. A. J. Semmes, of Washington; Grafton Tyler, D. C.; and Dr. D. F. Condie, of Pennsylvania, that committee.

Dr. F. C. Stewart, of New York city, offered the following resolutions, which were unanimously adopted :—

Resolved, That the thanks of the American Medical Association be, and they are hereby tendered to the Committee of Arrangements for the liberal and cordial reception extended to its members during the present session.

Resolved, That a similar acknowledgment is eminently due, and also unanimously extended, to the officers, trustees, and managers of the several public and private institutions of the city and vicinity, which have been thrown open to the inspection of the members of the Association, the visitation of which has been a source of mingled satisfaction, and the management of which manifests the faithful and zealous care of those to whose guardianship they have been entrusted.

Dr. Biddle, Chairman of the Committee on Nominations, to whom was referred the resolution of Dr. Jewett, "that a committee of one from each State be appointed by this Association to report upon a uniform system of Registration of Marriages, Births, and Deaths," made a report, recommending the adoption of the resolution, and present the following list of names to constitute said committee : —

Drs. R. W. Wilson, of Hartford, Conn., Chairman; G. S. Palmer, of Gardiner, Me.; Silas Cumming, Fitz-William, N. H.; G. T. Elliot, Woodstock, Vt.; Edward Jarvis, Dorchester, Mass.; Joseph Mauran, Providence, R. I.; Jno. H. Griscom, New York, N. Y.; Henry Carpenter, Lancaster, Pa.; O. H. Taylor, Camden, N. J.; Lewis P. Bush, Wilmington Del.; A. Snowden Piggott, Baltimore, Md.; David H. Tucker, Richmond, Va.; —— Pitman, Tarboro, N. C.; Harry Lindsley, Washington, D. C.; Jno. D. Dawson, Charleston, S. C.; R. D. Arnold, Sa-

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vannah, Ga.; A. Lopez, Mobile, Alabama; J. Jones, New Orleans, La.; R. C. Foster, Nashville, Tenn.; C. J. Blackburne, Covington, Ky.; Jno. Dawson, Columbus, Ohio; Edmund Murphy, New Harmony, Indiana; A. D. Stebbins, Detroit, Mich.; J. B. Z. Blaney, Chicago, Ill.; Geo. D. Wilbur, Mineral Point, Wis.; Wm. M. McPheeters, St. Louis, Mo.; J. D. Elbert, Keosaqua, Iowa; Jno. H. Murphy, Falls of St. Anthony, Minnesota.

Mississippi and Arkansas were left blank.

Dr. J. L. Atlee, of Pennsylvania, offered the following resolutions, which were adopted:

Resolved, That to secure efficient teaching in medical schools, where the prime object is to enforce practical precepts, a large degree of union and harmony must exist among the teachers, and confidence be reposed in them by their pupils.

Resolved, That any such unnatural union as the mingling of an exclusive system, such as homœopathy, with scientific medicine, in a school, setting aside all questions of its untruthfulness, cannot fail, by the destruction of union and confidence and the production of confusion and disorder, unsettling and distracting the mind of the learners, to so far impair the usefulness of teaching as to render every school adopting such a policy unworthy the support of the profession.

Dr. Foster, of Tennessee, offered the following resolution, which, on motion, was laid on the table:

Resolved, That the State Medical Societies be requested to hold their annual meetings just one month before the meeting of the American Medical Association.

Dr. Clendennin, of Cincinnati, Ohio, offered the following:—

Resolved, That no State or local society shall hereafter be entitled to representation in this Association that has not adopted its code of ethics.

Resolved, That no State or local society that has intentionally violated or disregarded any article or clause in the code of ethics, shall longer be entitled to representation in this body.

This brought up before the Association the case of the Ohio State Medical Society, which, at its late annual meeting, on motion of Dr. Grant, "*Resolved*, That it is not derogatory to medical dignity, or inconsistent with medical honor, for medical gentlemen to take out a patent right for surgical or medical instruments." That resolution is in direct opposition to § 4 of Art. I. Chap. II. of the Code of Ethics, which says: "Equally derogatory to professional character is it, for a physician to hold a patent for any surgical instrument," &c.

A member from Ohio, Dr. Hills, defended the State Medical Society, deprecating any action upon the subject. He said that the obnoxious resolution had been carried by a very small majority; that the Society, as a body, accepted in full the Code of Ethics of the Medical Association, and could *only* have meant by its resolution an *erroneous interpretation* of the code, and not an opposition to its requirements.

Dr. Lemoine, of St. Louis, stated that a resolution on this subject had been made at St. Louis.

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Dr. Lajus detailed, that at the St. Louis meeting, "Dr. J. E. Nagle, of Kenton, Ohio, proposed that the words, 'for any surgical Instrument,' in Chap. II., Art. I., § 4, of the Code of Ethics be erased. The proposition was not adopted." (Vide Transactions.) Dr. Lajus remarked, that the sense of the Association on this subject had been thus fairly and fully obtained, and that too by a member from *Ohio;* that the State Medical Society, by its resolution, had therefore, not only violated the code of ethics, but had also acted in opposition to the special action of the Association at its meeting in St. Louis, in confirmation of a section of that code.

Dr. Cock, of New York, made some eloquent remarks on the value of the code of ethics, and the importance of the Association upholding it as its safeguard, allowing no dereliction of its laws to pass unnoticed.

Several members advocated the removal *at once* from the erring Society of the right of representation.

Dr. Miltenberger, of Maryland, offered the following preamble and resolutions, to be appended to the resolutions of Dr. Clendennin :—

Whereas, It has been brought to the notice of the American Medical Association that the State Medical Society of Ohio violated, at their last meeting, one of the articles of its Code of Ethics. Therefore,

Resolved, That the Secretary of this Association be directed to inform the officers of that Society, that unless such action be rescinded, they cannot hereafter be represented in this Association.

Dr. J. L. Atlee, of Pennsylvania, offered an amendment to the foregoing preamble, the addition thereto of the particular obnoxious action alluded to, viz: the adoption of a resolution, "That it is not derogatory to medical dignity, or inconsistent with medical honor, for medical gentlemen to take out a patent right for surgical or medical instruments."

The amendment was accepted by Dr. Miltenberger, and the resolutions of Dr. Clendennin, with the preamble and resolutions of Dr. Miltenberger, and as amended by Dr. Atlee, were adopted. The resolutions as adopted are as follows :—

Resolved, That no State or local society shall be hereafter entitled to a representation in this Association, that has not adopted the code of ethics.

Resolved, That no State or local society that has violated or discarded any article or clause in the Code of Ethics, shall longer be entitled to a representation in this body.

Whereas, It has been brought to the notice of the American Medical Association that the State Medical Society of Ohio violated, at their last annual meeting, one of the articles of its Code of Ethics by adopting a resolution, "That it is not derogatory to medical dignity or inconsistent with medical honor for medical gentlemen to take out a patent right for surgical or medical instruments," therefore,

Resolved, That the Secretary of this Association be directed to inform the officers of that society, that, unless such action be rescinded, they cannot hereafter be represented in this Association.

Dr. A. Stillé, of Pennsylvania, offered the following resolutions, which were adopted :—

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Resolved, That a special committee of five be appointed to report at the next meeting of the Association upon the following question :—

Might not the present system of repeating the same lectures to the same classes during two successive terms be usefully modified by extending the lectures of each chair over two sessions, so as to embrace a systematic and complete discussion of each of the following subjects :—

1. Special, Regional, and General Anatomy, including illustrative references to Morbid Anatomy.
2. Inorganic, Organic, and Pharmaceutical Chemistry and Toxicology.
3. General and Human Physiology, Hygiene, and Medical Jurisprudence.
4. Medical Botany, Materia Medica, Therapeutics.
5. General Pathology, Morbid Anatomy (systematic), Practice of Medicine.
6. General Surgical Pathology, or Institutes of Surgery, Mechanical Operative and Medicinal Surgery.
7. Obstetrics, Diseases of Women, Diseases of Children.
8. Hospital Clinical Medicine and Surgery.

Resolved, That the committee, at an early day, address the several medical colleges in regard to the proposed plan of instruction, requesting from them an official expression of opinion upon its merits and feasibility.

On motion of Dr. Pitcher, it was

Resolved, That the committee under the above resolution be appointed by the President, and that he be allowed to do this after the final adjournment of the Association.

The President appointed the following committee under the preceding resolutions :—

Dr. Alfred Stillé, of Philadelphia, chairman ; Professor Samuel Jackson, of Philadelphia ; Dr. John Bell, of Philadelphia ; Dr. John Watson, of New York ; and Dr. J. L. Cabell, of Charlottesville, Virginia.

Dr. Levi D. Scheets, of Ohio, offered the following alterations to the Constitution, which, under the rule, lay over until the next meeting :—

Whereas, It has been found necessary to devise some means of elevating the standard of education, both professional and general, among medical men, by those who are best acquainted with the sad and lamentable deficiency which prevails in this respect among a large mass of the profession, and particularly in the Western States. And,

Whereas, Efforts to this effect at home, have been opposed on the ground that more was exacted by such as took an active part in the matter, than is required by the "American Medical Association." And,

Whereas, It is believed that the national Society can exert a beneficial influence over the whole country. Therefore,

Resolved, That the Constitution of the Association be so amended as to require all delegates, before being allowed a seat in said Association, to satisfy the proper authorities that the societies which they represent,

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require *graduation* as the *sine quâ non* to membership therein, and that no person can become a permanent member, a member by invitation, or can be received as a delegate from any other body, unless he be a graduate of some respectable medical school.

Resolved, That the editors of the various medical journals of the United States be requested to publish the foregoing, so that an interest may be awakened on this subject, and that societies may be prepared to comply with the above requisitions in case they meet the approval of this Association.

Dr. Corson, of New York, asked and obtained leave to read a brief abstract of a paper "On the Influence of Lead on the Heart's Action, and the Importance of the Study of the Cardiac Impulse in Disease, generally founded on a Series of Observations."

On motion, it was referred to a special committee of three, with instructions, if they approve of it, to transmit it to the Committee of Publication for insertion in the Transactions.

Drs. Charles D. Davis, Isaac Wood, and F. Campbell Stewart were appointed the committee.

Dr. Thomas, of Baltimore, read a paper on a simple and easy method of applying nitrate of silver to the air-passages, contrived and employed by the author's brother, Dr. John Chew Thomas, about six years since. It consists in applying a stick of caustic lightly to a fine grindstone or emory wheel made to revolve with great velocity. The caustic is thus thrown off in an impalpable powder, which may be inhaled by the patient sitting before the stone.

On motion of Dr. Emerson, the paper was referred to a committee of three, with instructions, if they deem it worthy of insertion in the Transactions, to transmit it to the Committee of Publication.

Drs. Emerson, of Philadelphia, Miltenberger, of Maryland, and R. P. Thomas, of Philadelphia were appointed the committee.

Dr. Atlee offered the following resolution, which was adopted :—

Resolved, That the subject of the contagiousness or non-contagiousness of cholera be especially recommended to the attention of the State Committee on Epidemics, State Topography, &c.

The proposition offered at the last annual meeting by Dr. S. D. Gross, of Kentucky, to amend that part of the Constitution which relates to the election of officers, so that the election shall take place immediately before the adjournment of each meeting, instead of immediately after its commencement, was called up, and, on motion, indefinitely postponed.

The proposition offered at the last annual meeting by Dr. F. A. Ramsay, of Tennessee, that the constitution be so amended as to dispense with the Nominating Committee, and the duties of such committee, was, on motion, rejected.

Dr. N. B. Ives, of Connecticut, proposed the following amendment to the Constitution, to be appended to the end of the second article :—

"The Association shall, at all times, have power to punish any of its members by reprimands, suspension, or expulsion, upon a three-fourths vote of the members present at any meeting, at which not less than one hundred are in attendance."

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Dr. Dorset, of Virginia, offered the following amendments to the Constitution:—

Resolved, That with a view of adding dignity and influence to our body, and conveying a more adequate idea of its national representative character, the title "National Medical Congress" be substituted for that of "American Medical Association," and that we hold our sessions at least once in three years in Washington, D. C.

Dr. A. M. Pollock offered the following resolution:—

Resolved, That no organization or institution, entitled to representation in this Association, shall be considered in good standing which has not adopted its code of ethics.

Dr. Lemoine, of Missouri, called up the amendment to the Constitution offered last year by Dr. Byford, to change the name of the "Committee on Epidemics" to "Committees on Prevailing Diseases."

On motion, the proposed amendment was rejected.

Dr. Hays stated that the Mayor of the city, at the suggestion of some citizens who were anxious that the account of the reception at Independence Hall should be preserved in a more durable form and better fitted for distribution than in a newspaper report, had determined to publish it in a neat pamphlet, which would be ready for distribution to members of the Association to-morrow morning. Whereupon it was

Resolved, That the thanks of the Association be transmitted to the Mayor for this courtesy.

There being no further business, the Association, on motion, adjourned *sine die*.

THE MEDICAL EXAMINER.

PHILADELPHIA, JUNE, 1855.

AMERICAN MEDICAL ASSOCIATION.

Our readers will find an account of the proceedings of the last session of the American Medical Association in the present number. It will be seen that we have omitted the names of all the special committees from whom no reports were received, as well as the names of those appointed to report at the next session. We have also been unable to give the eloquent address of Mayor Conrad at Independence Hall. We regret the latter circumstance the less, however, as, besides a resolution passed by the Association to publish the address in the next volume of the Transactions, it has been very largely distributed to the profession in pamphlet form, by means of the Committee of Arrangements. With these exceptions, we believe that our account of the proceedings will be found to be a very full and accurate one.

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Unanimity and good feeling prevailed throughout the session.—Not a single contre-temps occurred to mar the general harmony of the proceedings—all things went smoothly as a marriage bell. The only subject to be regretted was the rather singular circumstance that the three most important committees of the Association —the Committee on Plans of Organization for State and County Socie. ties, the Committee on Medical Literature, and the Committee on Medical Education, all of which were anxiously looked for—gave in no reports. We sincerely trust that we may never hereafter have to record a similar omission.

We cannot refrain from copying the following very courteous and flattering remarks from the graceful and ready pen (we presume) of Dr. Morland, one of the editors of the Boston Medical and Surgical Journal. We feel very sure that our readers will be much gratified by a perusal of them.

The American Medical Association.—The session of this body, which has just closed, while it was characterized by the most unbroken harmony in all its proceedings, and by the great value and importance of the scientific communications made, was also, we will venture to affirm, unsurpassed by any yet holden, in the number and 'variety of the objects of interest exhibited to the members of the Association, and in the generous hospitality shown them during the whole of their stay in the beautiful city of Philadelphia.

We have already alluded, in a somewhat desultory manner, to the business proceedings of the session—and gratefully remembering the numerous attentions shown, and the hearty welcome everywhere extended, we wish to put a few recollections upon record. To the "Committee of Arrangement" the thanks of the Association are eminently due, for the complete and efficient discharge of their multiform and onerous duties. So quietly and smoothly did everything move on, that while we were well aware how much time and attention this management must have required, we daily admired the tact and good judgment which so unostentatiously, yet so thoroughly, directed the whole. Dr. Hays, the Chairman of the Committee, was certainly never *more* successful in any of his undertakings, and this, as every one will allow, while it is saying a great deal, expresses not one whit too much. We would particularly notice the great utility of the handsomely-prepared volume, a copy of which was presented to each member of the Association who duly registered his name. This little book contains the names of the Officers of the Association; of the Committees who were to report; the "code of ethics" of the Association; short accounts of places of interest to be visited; a map of Philadelphia, &c. &c. A publication of this sort is almost indispensable at such a time.

The delegations from the several States (twenty-six States being represented), were very full; five hundred and twenty-three, we believe, is the entire number of registered names. The members who so inclined were conveyed in commodious coaches, sixteen in number, to visit Girard College and Fairmount Water Works. At the College they were kindly received by President Allen, who conducted them over the magnificent and completely appointed building—the boys, in two or three of the school-rooms, being kept sitting for a while, that the visitors might pass through and inspect them. Every one must have been impressed by their neat, orderly and contented appearance. Great credit is due to the managers of this Institution and to its officers generally. Not the least pleasant part of this visit was the ascent of the members, *en masse*, to the roof

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of the building, whence a most imposing and extensive view of the city and its environs is obtained. The solidity of the building, and its faithful and costly construction, are worthy of special note. It is well known that the *roof*, even, is of stone, and of immense strength and weight. We remarked but one individual who hesitated to ascend, and he, indeed, retired, seemingly apprehensive that the additional weight of the visitors might be too much for the supports of the roof! We are happy to state that the latter did *not* fall in! The medical wisdom of the land escaped entombment beneath *that* marble!

Several other excursions were made, with universal satisfaction;—to the Philadelphia Hospital, an immense establishment, comprising within its walls a lunatic hospital, admirably managed; paupers are the chief inmates of this institution; the area covered by it, is, we were told by the gentlemanly and efficient resident physician, Dr. Campbell, *sixteen acres*. The amount of labor done by Dr. C. and his assistants must be very large, and, so far as we could observe, nothing was neglected.

The reception of the Association in Independence Hall was exceedingly gratifying. To visit this famous spot, in itself alone, is no slight privilege; to be eloquently greeted, and made to feel "*at home*" in it, is much more. We are happy to know that the beautiful Address of his Honor, Mayor Conrad, is already printed, in conjunction with the appropriate presentation speech of Dr. Hays, and that they both will be incorporated in the next volume of "Transactions."

We refer with great pleasure to the various elegant and delightful entertainments offered to the Association, by several of the physicians of Philadelphia, some of whose houses were thrown open every evening, and a hearty welcome given to all the invited guests. When the numbers of the Association are remembered, the extent of this noble hospitality may be, in some degree, estimated. Not only was the outer man most sumptuously provided for, but the lovers of the fine arts and of scientific rarities were gratified to the full. The very valuable conservatory of Dr. George B. Wood, President of the Association, was lighted for the inspection of visitors, with the gardener in attendance. This rare collection is chiefly composed of medicinal plants, and was gathered, as we learn, by its owner, for the purpose of illustrating his lectures. Drs. Wood, Bache, Hedge, Jackson, Pancoast, Norris, Paul, Alfred Stillé and Hartshorne, sent cards of invitation to the members of the Association, who gladly accepted, and seemed to have attained the *ne plus ultra* of enjoyment at each of their entertainers' houses. For ourselves, we are heartily glad that no public entertainment was given to the assembled guests, for, aside from the enormous and unjustifiable expense incurred, and which, of itself, would finally defeat the objects, and virtually annul the meetings, of the Association, it would be disgraceful to have a renewal of certain scenes that have transpired. We hope, therefore, that the example of our Philadelphia brethren will be followed hereafter. A more generous, elegant and *appropriate* hospitality we have never witnessed.

The Association may consider itself highly complimented by the cordial reception given them by Mr. Lea, of Philadelphia. Having an ample fortune at his command, he has indulged an exquisite taste, by the accumulation of a large number of exceedingly valuable paintings and other works of art, and these are admirably arranged in his really magnificent mansion. We can say with truth, that it is worth a journey to Philadelphia merely to see these treasures. When, in addition, all that a courteous gentleman could devise, to please his visitors, is done, we cannot too gratefully express our acknowledgments. Mr. Lea was assisted in doing the honors of his house, by his son (of the well-known firm of Blanchard & Lea), to whom our thanks are especially due, for very pleasant attentions. Upon so agreeable a theme, we might fill a far larger space than we can command. Many gentlemen (ourselves among the number), can testify to the polite invitations to private tables and to the delightful intercourse of family circles. Under such *treatment* we prognosticate a decided proclivity on the part of all present, to fall into the same way again! And we make no doubt that our friends of the far North-West, will, next year, welcome the Association in the

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warmest manner and with the happiest anticipations. We can testify to the very decided wish (we might almost term it *will*), that Detroit, Michigan should be the next place of meeting—and which was finally so settled. Nashville, Tenn., contested the matter bravely. This eagerness upon the point, clearly shows that the profession throughout the land feel the beneficial influence of the "American Medical Association."

During the latter half of the session, Dr. Storer, of this city, circulated among the members copies of the following stanzas, sent to him by Dr. O. W. Holmes, in expectation of a public entertainment being given. Having by no means been so generally seen as their beauty and appropriateness deserve, we give them, in this pleasant connection, by permission of their author:

A TRIPLE health to Friendship, Science, Art,
From heads and hands that own a common heart!
Each in its turn the others' willing slave;
Each in its season strong to heal and save.

Friendship's blind service, in the hour of need,
Wipes the pale face—and lets the victim bleed.
Science must stop to reason and explain;
ART claps his finger on the streaming vein.

But Art's brief memory fails the hand at last;
Then SCIENCE lifts the flambeau of the past.
When both their equal impotence deplore—
When Learning sighs, and Skill can do no more,
The tear of FRIENDSHIP pours its heavenly balm,
And soothes the pang no anodyne may calm!

May 1, 1855.

And thus, under the most favorable auspices, without and within, closed this, the eighth annual meeting—nothing wanting, not even the touch of poesy, to complete and preserve its agreeable reminiscences.

The readers of the Examiner may remember that we published in the April number a review of Dr. Eben. Watson's work "On the Topical Medication of the Larynx," &c., in connection with a paper by Horace Green, M.D., "On the Employment of Injections into the Bronchial Tubes and into Tubercular Cavities of the Lungs." A few days after the issue of the journal, we received a note from Dr. Green, asking us, on the ground of injustice to himself and to medical science, to allow him room in the next number to correct in a brief article certain mis-statements made in the review. We answered him immediately that he was at liberty to correct any mis-statements of facts that might have been made, and in the manner he proposed, viz., in a short article. It may be proper here to observe, that this always has been our rule. We claim, however, to be the judge whether the allegations are mis-statements or are not, and for the proper exercise of such judgment hold ourselves responsible. On the other hand, when an article is signed, we do not consider ourselves accountable for anything either said or implied in it. To its author alone belong the right and responsibility of correcting any mis-statements in it, and that right no editor can properly refuse him. On the 14th of April

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we received a lengthy paper from Dr. Green, with a note accompanying it, thanking us for our compliance with his request. After a careful perusal of the paper, we returned it to Dr. Green, stating our reasons for so doing in the letter which will be found below. A large portion of the paper was entirely irrelevant. The introduction into it of Dr. Ware's favorable opinions of Dr. Green's practice, in connection with a review written years ago in the American Journal of Medical Sciences, and the account of the unde derivatur of Dr. Watson's topical treatment of hooping cough and other diseases, though, no doubt, exceedingly interesting, were matters which had nothing whatever to do with the correction of mis-statements asked of us. With every disposition, therefore, to make allowance for Dr. Green's desire to vindicate himself from what he considered misrepresentations, we thought the reasons just mentioned, with those given in our letter to him, were such as obliged us to decline his paper. To have published it, would have been a withdrawal of what we were satisfied was correct and not unjust. It afterwards appeared in the May number of the American Medical Monthly, a journal of which Dr. Green is a co-editor, under the heading of "The Examiner corrected." In an editorial in the same journal are the following remarks: "The other answer explains itself. It was offered to the Examiner, in which the review appeared, but was rejected, for reasons which appear to us quibbles. The editor or the reviewer has shown himself a little thin-skinned, as the saying is, in not being willing to allow his readers to hear the other side. However, that is none of our concern, and we merely mention it as a passing reflection. Meantime, we must do what we can to perform the duty which properly devolved upon the Examiner."

Our readers can judge for themselves, after reading the following, whether the term "quibble," as applied to our refusal, was either just courteous.

Philadelphia, April 17th, 1855.

HORACE GREEN, M.D.

Sir,—In answer to my letter to you of the 6th inst., in which it was stated that I would cheerfully allow you an opportunity of correcting, in the manner you desired, (in a brief article,) any mis-statements of facts made in a review contained in the April number of the Examiner, I received yesterday a note from you accompanying a manuscript of twelve pages. After carefully reading it over, and comparing it with the review and Dr. Watson's work, I have come to the conclusion to decline its publication. This I do, from having fully satisfied myself that, with one exception, the matters complained of are *not* mis-statements. The exception I refer to, which I shall take the earliest opportunity to correct, relates to the passage, (p. 205 of the Examiner) in which the reviewer speaks of a sponge "dropped into the windpipe of a man, whose larynx Dr. Peaslee was cauterizing." This mis-statement, which I believe, which I may say I know, from the character of the gentlemen who wrote the article in question, to have

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been unintentional, is the only one, which, after a most careful examination, I have been able to discover. As I, however, wish to show, from courtesy to you, on what grounds I make this statement, I will briefly go over the various points to which you have addressed your letter, premising that the Reviewer's statements and not his opinions, are the matters in issue between us.

The first mis-statement you complain of, is the remark that a "sponge, which, according to Dr. Green, dropped into the wind-pipe," &c. (p. 205 Examiner.) This assertion was an incorrect one, it is true. It is plain, however, from the context, that the Reviewer's object was not to condemn Dr. Peaslee for letting a sponge drop into the larynx—such an idea never entered into his mind—but was to show his readers what was the opinion of Dr. Watson of the size of the sponge extracted. Other journals and foreign ones have quoted, I may observe, this same passage.

On page three of your manuscript, you say, after giving an account of the same sponge case, "Now it is the above statement, &c., that your Reviewer, along with Dr. Watson, would characterise as being 'grossly inaccurate.'" It is a sufficient answer to this, to say that the Reviewer used no such language. He expresses no opinion of his own upon the subject. The only statement made is in Dr. Watson's own words, (p. 20, English edition.) In the original from which it is taken, it is followed by remarks, I perceive, far more severe than any copied into the review. Dr. Watson says, "when once the mind of the reader has been impressed with the gross inaccuracy of observation, or the still more inexcusable laxity of description which characterizes the statements above quoted, it is in vain to attempt pointing out the grain of wheat in the bushel of chaff, &c." I cannot conceive that the Reviewer is bound to defend these opinions of Dr. Watson. It should suffice, that he gave what he did copy, truly.

As regards your strictures upon the statement of the Reviewer, that Dr. Watson is "altogether opposed to its employment, (speaking of the use of caustic in croup,) unless before any exudation has been poured out, which is equivalent to saying, before there is any croup to treat," you, yourself, admit that Dr. Watson *does* object to its use during the stage of exudation. (See p. 53, Watson.) He does not do this, however, for theoretical reasons alone, as you state, but from positive experience in its use. He narrates two cases, and remarks (p. 46) that he "could relate several others, the subjects of which were children," to prove that the topical treatment is unsuitable during the acute stage, and that it retards, if it does not prevent its favorable progress. As to the treatment of the disease *after* the exudation is cast off, Dr. W. does, as you say, consider "the renewal of the topical treatment as one of the appropriate measures to be employed," "but it is only after *blistering*, *gentle purgatives*, with *tonics*, a *nourishing diet*, and as soon as the effects of the *calomel* permit," that he mentions it.

In my opinion, the Reviewer had a perfect right to use the words, "which is equivalent to saying before there is any croup to treat." Every one is satisfied, when the membrane has been seen, that a pre-exudative stage must have existed. It is a very different matter, though, to determine from symptoms, that such will be the termination of the disease. We may suspect that such will be the issue, and may imagine, if we please, that our treatment has been successful in preventing it. When we see, and only when we see, the membrane, can we be sure, at least such is my opinion, that we are treating a case of that terrible affection.

All that portion of your manuscript which relates to Dr. Ware and his opinions, is entirely irrelevant to the matter at issue.

As regards the Reviewer's remark, when upon "follicular disease of the larynx," that Dr. Watson is disposed to regard it altogether as what Carlyle would call "a sham." I must refer you, for its defence, to pages 66 and 67 of Dr. Watson's work. I shall make but one extract. The author remarks, "The latter (follicular disease) must, indeed, be an affection of very rare occurrence, since so few writers take notice of it, and I feel almost inclined to question the reality of its existence as a disease of the larynx in any case. At all events, I do not hesitate to assert, that we have no evidence, in even Dr. Green's writings, which is worthy to be considered as establishing the matter; and I will also maintain that the assump-

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tion of the existence of such a lesion as the cause of certain symptoms, is neither necessary nor philosophical." This statement clearly shows that Dr. Watson not only doubts, as you allow he does, the *extent* of the disease, but also "the reality of its existence."

Finally, as respects the remarks of the Reviewer upon "cauterization in hooping-cough," as he no where denies that Dr. Watson owes his first trial of it, in that affection, to a perusal of your work on "Diseases of the Air Passages," you, surely, have no right to blame him for what he has left unsaid.

These are all the points I believe, in issue between us. Your manuscript, however, is so largely taken up with other subjects, entirely irrelevant to the question, that I should be obliged to decline it for such reason alone, were there none others.

In justification of the necessity of a review, I would state that your position as an author, a professor, a physician in large practice, and a co-editor of an extensively read journal, demanded a thorough examination of the novel procedure brought by you before the profession in your article "On the Employment of Injections into the Bronchial tubes and into tubercular Cavities of the Lungs." I was in hopes, after reading it, that it would be properly noticed in some of our journals. As it was not done, however, and as I conscientiously thought that your advised proceeding must be both hazardous at the time it is employed, and liable to be followed by dangerous consequences, I requested a review of it, and can only express my sincere regret that the opinions therein expressed were not more acceptable to you, since no personal feelings were in any way engaged in the discussion.

I remain, very respectfully,

S. L. Hollingsworth.

We copy the following remarks from the Charleston Medical Journal, as the person to whom they refer is now in our city.

Dr. Alex. Turnbull.—In answer to numerous inquiries which have been made concerning the scientific attainments of Dr. Turnbull; and, also, to correct the erroneous impressions which have gone abroad through the medium of the public prints, we undertake an exposition of his career; in doing which, we are deviating from our accustomed course, and giving undeserved importance to one who would not otherwise have occupied our attention. The unblushing assumptions of this person to perform impossibilities, and the rumours of his pretended cures, have so impressed the minds of the credulous, that it becomes our duty to warn our readers, who may have friends or patients laboring under diseases of the eye or ear, from crediting the recommendatory advertisements which have been in circulation, respecting his "simple and painless processes," by which diseases hitherto beyond the resources of art are speedily and permanently cured.

Many an anxious parent has been subjected, on the faith of these advertisements, to serious inconvenience and considerable expense, in the anticipation that soon their deaf-mute children would be restored to the healthful use of their dormant faculties. From day to day they were encouraged to hope, until, wearied by a longer attendance, or being assured that time alone was required to perfect a cure, they have departed in trembling anxiety, too soon to have the unwelcome truth forced upon them, that the objects of their solicitude were as hopelessly incurable as ever.

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Some time since, Dr. Turnbull came to this country, and soon rumours reached us of his curing all manner of *deafness and blindness;* in due time Dr. T. reached our city, and took rooms at one of our hotels, where he announced himself as being prepared to treat the diseases of the eye and ear. For a time, he attracted very little attention; but, after treating divers cases, two were announced in a respectable city paper, (Charleston Courier,) as having been cured by his peculiar processes.

"One, a boy from Georgia, now nine years old, who had lost his hearing from fever in his third year," and been since that time completely deaf, "has been restored to an unusual degree of delicacy and sensitiveness, and he is making incredibly rapid progress in distinct articulation." Now we know this to be the reverse of the fact. Both parents of this child have emphatically averred that his hearing is not in the slightest degree restored; and, on seeing the above advertisement, the father became indignant, and immediately telegraphed the Augusta papers not to copy it.

"The other case is a youth from this city, aged 18, whose infirmities (of hearing and speech) being in some sort hereditary, and of a most decided character, afforded a crucial test of Dr. Turnbull's processes. In this interesting case, also, the progress of improvement has been rapid and uninterrupted, and the patient is now hopefully undertaking the education which is necessary to give him the due use and appreciation of his new born senses."

This case is the only one, that we know, which has been benefited. But there is no miracle here. There was only an absence of secretion in the external meatus, and the sense of hearing was obtuse, and was rendered less so. The patient has been under treatment for several weeks, and is not yet discharged.

We are informed, in the same Journal, that Dr. T. has contributed *largely* to the leading Medical Journals of England, and that "his professional status has been recognized and approved by the most competent European authority, and the value of his discoveries and contributions, in medical resources and remedial agencies, has been cheerfully admitted and abundantly attested."

Before commenting on these statements we will sketch the history of the Doctor, and present the opinion of the profession in England concerning him.

In 1835, there appeared, in London, a duodecimo of 171 pages, "*On the Medical Properties of the Natural Order Ranunculaceæ and their Alkaloids, Veratria, Aconitine, Delphinia and Sabadilline.*" By A. TURNBULL, M.D.

The reviewer of this work, in the "British and Foreign Medical Review," says that "if one quarter of what it contains be true, (and surely that would not be an unreasonable requisition,) Dr. Turnbull's alkaloids are sufficient to change the face, not only of medicine, but of society."*

"Of nine cases of affections of the heart, veratria is said to have cured

*The latter remark having reference to the moral effects which would ensue from the prolongation of human life, and the eradication of a large class of incurable diseases.

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or relieved all; of thirteen cases of neuralgia, to have cured twelve; of nine cases of rheumatism, to have cured eight, and almost the remaining one. The heart affections, moreover, were evidently cases of organic disease, though the author, with great humility, generally refrains from saying so. * * * * Every case of neuralgia was perfectly cured, except one, and even of that the history concludes, in the text, with the words 'leaving no trace of the affection behind, neither has any renewal of it taken place?' (p. 70.) The note, however, a traitor to the text, says—'In this instance the veratria has completely failed in giving permanent relief,' &c." (*B. and F. Med. Review, vol. ii, p.* 499.)

These alkaloids were given a fair trial by the profession of that day, but no such effects followed their use as had been attributed to them by Dr. Turnbull. Veratria and Aconitine have been extensively employed down to the present time, and, though they sometimes are found useful as topical applications in neuralgia, like other medicines of their class, they are, internally, still of doubtful efficacy.

A "*Treatise on Painful and Nervous Affections, and on a New Mode of Treatment for Diseases of the Eye and Ear,*" by A. TURNBULL, M.D., appeared in 1837. The treatment of the affections of the latter organ, comprised in a few pages, consisted in the application of the alkaloid veratria to the external meatus and the adjoining parts. The "electro-stimulation," as the author styles it, having proved so efficacious in curing deafness, he determined to experiment upon the deaf and dumb, and soon cures were announced as having been effected by this means. The possessor of this remedy betook himself to Scotland to operate upon the deaf-mutes of that country, but he was not so successful as might have been expected; still rumour said that he had cured several cases in the Deaf and Dumb Institutions of Edinburgh, and it was not until some time had elapsed, that Mr. ROBERT KINNIBURGH, the intelligent head master of that institution, publicly asserted that no cure had been effected.* His cures were also questioned, and his statements severely criticised in Chambers' Journal, for September, 1839; but, three years afterwards, we find the Edinburgh Journalist retracting his former strictures, and lauding the achievements reputed to have been performed by Dr. T. in his tour through Scotland.

The editor tells us, that wishing to arrive at a thorough conviction, he "studied the most recent and approved works on aural surgery, in order to ascertain in what respects Dr. Turnbull's practice differed from that which was general in the profession." Now it is impossible to understand, or appreciate the treatment of a class of diseases, until the anatomy, physiology and pathology of the organs involved, have been thoroughly studied. An unprofessional man cannot be convinced of his error, or justly estimate the merits of a cure, or the causes of failure.

Here is what this observer relates:

"Experiment in time showed that in cases of deafness arising from low nervous energy, a class to which nearly all the cases of the deaf-

*Vid. Wilde's, on Diseases of the Ear; Am. Ed., p. 55.

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dumb belong, the organ may be more or less successfully treated by applying to it a weak alkaloid. This he rubs gently on the tympanum by means of an instrument tipped with chamois leather, and generally in ten minutes the effects are manifest.

"But the greater number of diseases of the ear, arise from cold, producing acute and chronic inflammation, and diminishing or altogether obstructing the flow of wax, whereby the tympanum and other parts of the outer ear, from being exposed to the air, are thickened, and so deprived of sensibility. Cold also produces inflammation and consequent accumulation of mucus in the passage called the Eustachian tube, which communicates between the internal ear and the back of the mouth. Finding cured persons relapse in consequence of the defect of wax, Dr. Turnbull was prompted to use his ingenuity in endeavoring to discover the means of sustaining that secretion. He reflected that the application of the mouth of the child to its mother's breast, by removing *the* pressure of the atmosphere, causes the milk immediately to flow, and he conceived that a similar result might follow with respect to the wax *of* the ear, if he could by any means remove the pressure of the atmosphere from the external parts. For this purpose he at first used a syringe with an India-rubber mouth, exactly fitted to the aperture of the ear. *The* plan was successful; the blood vessels resumed a free circulation, and the flow of wax recommenced. It strikes us that we have rarely known a more beautiful instance of a simple natural principle being taken advantage of by human ingenuity for a human end."

Had this writer profited by his studies, he would have known that there is no analogy between the mammary gland and the follicles of the meatus, or between their respective secretions. The flow of milk *from* the former, by the removal of atmospheric pressure, is in obedience to a physical law, while the secretion of the latter depends upon the normality of the secreting follicles, and is poured out independent of any atmospheric condition.

Again:—"The clearing of the Eustachian tube, for which no means formerly existed but the application of medicines to the bowels, (!) or the *dangerous* use of the catheter, was effected by Dr. Turnbull by the *same* simple means."

Here we have a veracious, but misguided man, stating his convictions, and imparting to the world the value of remedial agents, about which he really knows nothing; showing too clearly, by his laudation of Dr. T., that he was the dupe of that person. Catheterism of the Eustachian tube *is* now well known to be a safe and simple operation. From the time of its first performance by Guyot, to the present day, it has been so considered.* We have seen it performed scores of times by the surgeons of Great Britain and the Continent, and have never known any unpleasant consequences ensue. But we need not be surprised that the friends of Dr. T. should call it a *dangerous* operation; for the only two cases recorded of injury having resulted from this simple procedure, occurred to Dr. Turnbull himself, *two of his patients having fallen victims*

*Vid. Pilcher on the Ear. 1843. p. 258.

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to it, and on both of whom coroner's inquests were held. One of these, aged 68, was, almost immediately after the operation, attacked with a violent swelling in the throat, of which he died on the tenth day; the other, aged 18, in the enjoyment of perfect health, *died whilst undergoing the operation.* Messrs. Liston, Quain and Savage, were present at the post mortem examination, and stated, as their opinion, that death was caused by the forcible injection of cold air into the tympanum."*

After this sad affair, Dr. Turnbull resorted to a more "simple means" of clearing the Eustachian tubes, as indicated above. This he does by means of an air pump, in connexion with a flexible tube, "introduced into the mouth of the patient, and applied to the orifice of the Eustachian passage. A communication is thus opened between the previously rarified air in the receiver and the orifice, from which a discharge of mucus is made to enter the tube, which is then withdrawn."

In 1841–'43, Dr. Turnbull is again heard of in new fields of discovery. The Literary Gazette, whose glaring advertisements, on a former occasion, attracted the attention of the Edinburgh Journalist, is again in the van; and we read of *cures of blindness by the fumes of Prussic acid.*

We will let the writer speak for himself:

"The various stages of cure, advanced in our presence, by the simple application, for about half a minute, or until a little warmth was felt by the patient, of the vapor of hydrocyanic acid in a small phial, held up to the eye, with an aperture fitting the form of that organ; the various nature of the diseases so assailed—opacities of the cornea, inflammation, cataract, amaurosis, iritis, &c., &c.; the various stages of relief which the patients had reached, with sometimes one eye opened to sight and pleasurable to look upon, and the other left nearly blind and in its pristine deformity, to show what had been achieved; the various appearances of films removing, cataracts breaking up and being gradually reabsorbed, pupils being re-developed, and other altogether extraordinary symptoms of remedy and regeneration, filled us, we repeat, with wonder and delight."

The editors of Chambers' Journal considered the name of the editor a sufficient guarantee for the accuracy of these statements, and at once began to sound Dr. T.'s praise abroad. Their puffs and notices, spread over many pages of their Journal, may be viewed as a propular report on Ophthalmic and Aural Surgery.

Dr. T., emboldened by such commendations, published a short letter in the Lancet, (Sept. 28th, 1841,) containing a few "hints on the effects of hydrocyanic acid upon the Eye." His pamphlet, a small octavo of eighty-nine pages, on the "*Treatment of the Diseases of the Eye, by means of Prussic Acid Vapor, and other Medicinal Agents,*" appeared two years later. Dr. Turnbull having had a little practice in authorship, now indulges in theory, and, in his own (original) way, attempts an explanation of the *modus operandi* of the medicaments he prescribes.

*Lancet, July 6th, 1839; also, London Times same date.

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"It is a well known fact," he says, "that the eyes of those who have been destroyed by hydrocyanic acid, for a length of time after death show none of the usual symptoms of dimness; on the contrary, the eye is clear and the pupil much dilated. This satisfied me that the acid exerted a specific action upon the eye, which might be made available, as a medical agent, for relieving many of the diseases to which that organ is so subject"—(p. 4.)* The condition of the eyes, after death, of those who have died from the effects of Prussic acid, are well known to be as Dr. T. describes, but the inference drawn from the fact is preposterous and absurd: for, as those who die from the effects of carbonic acid, or those who expire in a fit of apoplexy, present the same appearance of the eyes, we may, by the same analogical mode of reasoning, infer that the fumes of charcoal, and slight congestion of the brain, are specific remedies for diseases of these organs.

The explanation of the therapeutic process is as follows:—"The plan I generally adopt is to put into an ounce phial a drachm of the acid, and hold it in close contact with the eye, the eyelid being open, for the space of about half a minute, or until such time as the patient feels a little warmth, or the person holding the phial sees the pupil greatly dilated and the vessels of the eye injected with blood, which is the invariable effect of the application of the acid. The patient is not sensible of pain from this peculiar state being induced, which appears to me to result from the powerfully sedative influence of the acid, thereby showing two opposite powers, to wit: stimulating and sedative, are exerted at the same time, and thereby the uneasiness, arising generally from a stimulant alone, is prevented. Its great power in removing those diseases chiefly arises from the two powers being so blended, and thus enabling the eye to bear a sufficient stimulating action without injury. *The person who holds the acid to the eye should be careful not to allow the patient to smell it.*"†

This is original indeed! Pain is avoided, while incipient inflammation ("the vessels being greatly injected") is produced, which cures cataract, iritis and amaurosis. Diseases essentially different, resulting from diverse causes, and thus cured by stimulation, carried further than could otherwise be done by the sedation, which is also an effect of the vapor! But why, we may inquire, is the bottle-holder warned to remove the phial, for fear of too great an impression being produced, if the two forces are antagonistic and of equal power? In accordance with the above theory, it may be suggested that the forces will all necessarily counteract each other, and no effect will be produced.

Dr. T. uses the essential oil of bitter almonds in the same diseases, feeling convinced, he says, that it is more soothing, relieving pain without dilating the pupils or causing much redness of the eye, and being useful, also, in taking away the heat occasioned by the hydrocyanic acid. We may ask, if this harmless remedy fulfils all the required indications, why use the most dangerous? and why, on the same page, assign the

* Vid. Lancet, Oct. 9th, 1841.
† Vid. Lancet, as above.

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same reasons for preferring and rejecting each alternately? But the Doctor is not satisfied yet; he has discovered *newer* remedies, and must consequently apologize for their introduction, which he does by disparaging his former favorite.

One reason why he did not rest satisfied with the great effects produced by the Prussic acid was, that its action, like that of all other medicines, decreased in power by continued application, thereby rendering it necessary to have occasional recourse to other medicines, in order to ensure a more *speedy recovery*. Another reason was, the reluctance of many individuals to submit the eye to the action of so potent a medicine. Well might a prudent person object to allow the vapor of concentrated Prussic acid to be brought in contact with his eyes, when such authorities as Pereira and Christison state, that, if a drop of the pure acid be placed on the throat of a dog, or applied to the eye, death takes place in a few seconds; and that, inhaling the vapor, decidely produces death more quickly than any other mode of using the acid.

The *newer remedies* are the *chlorocyanic and the sulphuretted chyazic acids*, the *chloruret of iodine*, and the *bisulphuret of carbon*. The first two articles are very different in their action from the Prussic acid, however, but we are to infer that they produce the same effects. The vapor of the *chloruret of iodine* irritates the eye, and the *bisulphuret of carbon* causes an intense prickling sensation, yet for reasons known only to Dr. T., they all cure "*blindness.*"*

The following is the ingenious explanation of the *modus operandi* of these substances when applied to the skin: "The action of these medicines, which contain so large a share of carbon, arises from the carbon in the vapor permeating the cuticle, and coming in contact with the oxygen in the vessels, which is conveyed through every part of the frame by inspiration and otherwise, thereby forming carbonic acid gas, which evolves heat in the ratio of the quantity consumed by the oxygen." On page 70 of his work last noticed, he says, "the rationale, in my opinion, is, that the large quantity of carbon in some of the essential oils, and its solubility in alcohol, permits it, by friction, to pass through the cuticle and unite with the oxygen."

The long received theory of the cure of amaurosis by stimulating the nerves of the skin, is then no longer tenable after the above lucid explanation.

We have seen that Dr. Turnbull's "simple means" for the cure of deafness, was sufficient to cause the death of two of his patients. But since he has resorted to the vapor of concentrated Prussic acid, as a local application to the delicate surface of the eye, we hear of nothing more serious than frequent failures, some of which necessitated the refunding of his fees.†

From our references, it has been seen in what repute Dr. Turnbull is held, and what has been considered the value of his medical contributions, by his own countrymen. We have not particularized the unpro-

* Vid. Lancet, Oct. 29, 1842.
† Lancet, Jan. 7, 1843.

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fessional and disreputable acts of Dr. Turnbull, which we find recorded in the medical periodicals of his country; for so numerous have they been, that it would look like persecution to repeat them here; and our readers would have cause to complain of the wearisome length of the sketch we have drawn.

But before dismissing the subject, we must advert more particularly to some of the pretensions of Dr. Turnbull, and the results of his practice as it has come under our observation. He not only attempts to cure deaf-dumbness, but has endeavored to force conviction that such has actually been accomplished. Now, congenital deaf-dumbness has always been regarded as incurable, and we have no satisfactory proof that a single deaf-mute has ever been cured—that is to say, has so recovered the use of the organ of hearing as to be able, under all circumstances, to communicate with other persons in an unrestrained manner.*

But, when this condition has been produced by some mechanical impediment, or by some pathological state of the organ or derangement of its function, it may be removed. And if the disease has been of long standing, a cure may sometimes appear miraculous, indeed, to unprofessional persons.

There is more room for deception, in respect to the sense of hearing, than may be generally known. A deaf-mute can be taught to speak and answer questions addressed to him, without hearing a single note. Only two years since, when visiting the Institution for the Deaf and Dumb in Berlin, we had the opportunity of satisfying ourselves of this fact. By a judicious system of training, the inmates of this institution are not only taught to understand spoken language, by construing the movements of the lips of those who address them, but so to appreciate the movements of their own, by the muscular sense entirely, that they are enabled to articulate distinctly, and thus communicate with others in a satisfactory manner.

Instances may be adduced, where some of Dr. Turnbull's deaf patients actually asserted that they heard the ticking of a watch at a greater distance than persons in full possession of the sense of hearing could do. Without wishing to deceive, these persons, with their imaginations highly excited, could readily mistake the conception arising in their own minds for the sensation produced by an external agent. And those most interested in the success of the treatment, are not in a condition to detect the imposition, even were they able to apply the philosophic explanation of the phenomenon.

But it is only to the public, and not to the profession, that Dr. Turnbull makes these pretensions—implying that *he* can do what no other *mere* man can do. If the power of giving sight to the blind, hearing to the deaf, and speech to the dumb, was imparted to only ONE, who was more than man, then such power was miraculous, and cannot be arrogated by any erring mortal.

As intimated before, however, we doubt the efficacy of the means he employs, and, from our observation of the cases which have been sub-

* Kramer on Diseases of the Ear, Ed. 1838, p. 204.

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jected to his treatment, we must regard him as decidedly less successful than other surgeons who make these diseases their especial study. There is already a reaction in the public mind in reference to his alleged cures. His patients are becoming weary, "with hope deferred," and many have left for their homes without having experienced the slightest amelioration of their infirmities.

MEDICAL NEWS.

The vacancy in the Chair of Surgery of the University of Pennsylvania, caused by the resignation of Prof. Gibson, has been filled by the election of Dr. Henry H. Smith, of Philadelphia.

Dr. Smith graduated in the department of Arts of the University of Pennsylvania, in the year 1834, and in the Medical Department of the same University in the year 1837. After being resident physician in the Pennsylvania Hospital for two years, Dr. S. went to Europe, where he spent 18 months. Upon his return, he lectured for several years in the Philadelphia Medical Institute. He was appointed Assistant Lecturer on Demonstrative Surgery in the University of Pennsylvania in the year 1845, and Consulting Surgeon to St. John's Hospital in 1849. In the year 1854 he was elected Consulting Surgeon and Lecturer on Clinical Surgery in the Philadelphia Hospital, Blockley.

In 1840, Dr. Smith translated Civiale on Stone and Gravel. In 1843, he published a work on Minor Surgery, which has since passed through three editions; and in 1844, an Anatomical Atlas. Edited the United States Dissector in 1846; and, in 1852, published his large work on Operative Surgery, now in its second edition.

Dr. Smith has recently sailed for Europe, to procure new material for the illustration of his course.

In a letter received from Dr. Ruschenberger, of the U. S. Navy, now attached to the flag ship Independence, is related the following instance of lofty tumbling.

"We had an odd accident. A seaman, off Cape Horn, in a gale of wind, was standing, on a level with the cap, in the weather main topmast rigging, to guide the main top-gallant yard in its descent from aloft. A heavy roll brought the yard against him and flung him off, head downwards. As he fell the main topmast back stay was embraced betwixt his body and left arm. When a little above the shearpoll a rope caught his feet and turned him over, so that he alighted on his feet in the main chains. He was brought in upon deck unhurt. He said he tried to seize hold of the back stay, but came down so —— fast.

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he could not hold on. On being questioned he said he was not hurt, but felt 'considerably shook up.'

I remember a fat boy, who fell asleep in the fore-top of the U. S. S. Peacock, and rolled out. He fell on deck upon his side; his contusion was so slight he was not excused from duty a single day. He fell about 40 feet, but the spars of the Independence are those of a ship of the line, and her main cap is 100 feet above the deck.

Abstract of Meteorological Observations for April, 1855, *made at Philadelphia, Pa. Latitude* 39° 57′ 28″ *N., Longitude* 75° 10′ 40″ *W. from Greenwich.* By PROF. JAMES A. KIRKPATRICK.

1855. April.	Barometer. Daily Mean	Barometer. Mean Daily Range.	Thermom. Daily Mean	Thermom. Mean Daily Range	Dew Point 2 P.M.	Force of Vapor 2 P.M.	Rel. Humid. 2 P.M.	Rain and melted Snow.	Prevailing Winds.	Remarks.
	Inches.	Inches.	Deg.	Deg.	Deg.	Inches.	Hunds.	Inch.	Points.	
1	29.355	.369	43.7	11.2	27.3	.123	.31		NW.	M. cl'dy; aft. & ev. clear. *Bar.*
2	29.602	.247	34.0	12.3	21.3	.077	.32		W.	Cl'r. *Th. Pst* 22°. [*Pst* 29.234
3	29.963	.361	37.7	3.7	33.3	.182	.60		NW.	Clear.
4	30.116	.153	44.3	6.7	24.7	.097	.22		Var.	Aft. cloudy; m. and ev. clear.
5	29.816	.266	43.8	6.8	41.7	.265	.91	0.922	NE.	Cloudy; ev. fog. *Rain* all day.
6	29.562	.254	52.0	8.2	36.7	.229	.44	0.255	WNW.	Cloudy; ev. and night *Rain.*
7	29.700	.139	46.0	6.0	32.2	.172	.43		NW.	Clear.
8	29.771	.071	47.3	4.0	35.7	.216	.43		SW.	M. fog; aft. and ev. clear.
9	29.805	.034	50.0	6.7	46.0	.321	.80	0.072	SW.	Cloudy; m. and ev. *Rain.*
10	29.785	.084	49.3	1.3	48.3	.349	.86	0.254	(Var.)	Cloudy; drizzling rain all day
11	29.791	.080	40.3	9.0	33.3	.186	.82		NW.	M. cl'r; a. & ev. cl'dy. 1 to 2 P.M
12	29.966	.171	49.3	9.0	25.7	.107	.24		WNW.	M. cl'dy; a. & ev. cl'r. [*Snow.*
13	29.980	.053	52.5	3.2	34.3	.203	.39		Var.	Cloudy.
14	29.773	.207	55.7	3.2	46.0	.339	.65		(Var.)	Cloudy.
15	29.789	.079	50.7	7.0	47.7	.335	.93	0.331	NE.	*Rain* till 6 P.M.; ev. clear.
16	30.045	.250	55.3	9.7	37.0	.244	.40		Var.	Clear. [2½ P.M.
17	30.016	.079	54.0	3.0	41.3	.283	.54	0.000	SW.	Cloudy. *Shower* from 1¾ to
18	29.794	.222	64.0	8.8	53.3	.490	.63		ENE.	M. cloudy; aft. and ev. clear
19	29.648	.146	73.3	9.3	48.7	.517	.42		NNE.	Cl'dy. *Th. highest*, 4 P.M. 87°
20	29.050	.098	57.0	16.3	46.0	.339	.65	0.308	(Var.)	M. and aft. cloudy; ev. clear: from 3 to 4 P.M *rain, th'r, l'ng.*
21	30.073	.423	55.3	5.0	37.0	.244	.40		NW.	Clear.
22	29.919	.154	57.3	4.7	47.7	.372	.63		SW.	M. and aft. cloudy; ev. clear.
23	30.039	.120	60.0	7.3	40.0	.290	.42		ENE.	Clear.
24	29.959	.118	61.8	8.5	55.3	.510	.68		SW.	Cl'y; m. fog. [8 to 9 P.M. *th. lig.*
25	29.869	.151	74.0	12.5	48.7	.517	.42		(Var.)	Cl'dy. *Th. hig'st* at 3 P.M. 87°.
26	29.811	.136	56.7	17.3	48.7	.365	.76		(Var.)	Cloudy; a few drops of rain
27	30.055	.244	56.0	4.0	32.7	.189	.33		NW.	Clear. [at 5 P.M.
28	30.113	.058	55.3	0.6	32.7	.189	.33		W.	M. & ev. clear; aft. cl'dy. *Bar.*
29	29.982	.132	56.2	3.8	43.3	.335	.47		NE.	Cloudy. [*highest* 30.179.
30	29.925	.057	53.5	5.0	46.0	.339	.65		½ NE.	Cloudy.
Means for April, 1855	29.856	.165	52.9	7.1	39.8	.281	.54	2.148	N. 52° W., 39-100.	
4 yrs	29.808	.193	50.6	7.2	39.1			5.153	N. 53¼° W. 33-100.	

The Monthly Range of the Barometer was 0.945 of an inch., and of the Thermometer 65°.

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THE

MEDICAL EXAMINER.

NEW SERIES.—NO. CXXVII.—JULY, 1855.

ORIGINAL COMMUNICATIONS.

Epidemic Jaundice in Montgomery County, Pa.

By HIRAM CORSON, M.D.

While I do not think it necessary for every one who meets with a few cases of severe disease, even very unusual ones, to make them the bases of a *theory*, and from this limited experience to lay down rules of practice applicable to other cases, it is certainly the duty of all, to record facts and observations for future generalization, by those fitted for the work. A brief notice of some cases of jaundice which occurred in my practice in the latter part of last year, may, therefore, not be uninteresting. On the 8th Sept., called to No. 1, a healthy Irish woman, aged 25, pregnant, at or near seventh mo., with her third child. Found her deeply jaundiced; urine in a deep vessel resembled strong infusion of coffee; linen steeped in it becomes tinged a bright yellow; stools white; great soreness around the fore part of the body, pit of stomach, and margin of the ribs, while the *pain* was entirely confined to a spot about *an inch above the umbilicus*; appetite almost lost, but still drags herself about her work. She lives in a low place, near the river Schuylkill, and has been much worried for two weeks nursing her husband with dysentery. Ordered calomel and rhubarb to move the bowels, blue mass moderately every day, with occasional laxatives. On 15th slight labor pains commenced, which, in defiance of every effort to arrest them, increased so as to produce delivery on the 18th of a feeble child, which lived but about an hour. Up to this time the yellow color

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of the skin was as deep as I have ever seen it in any patient; it then began to subside, and in a few weeks the health and color were re-established; since quite well. This was in an ague district, but there was hardly a case of intermittent fever in that region during the last year, which is remarkable from the fact that there are many unacclimated persons annually engaged at the furnaces in the neighborhood.

No. 2.—Sept. 26. Miss B. C., aged 6 years, on high ground, two miles nearly from No. 1. Well marked case; rhubarb and magnesia, in small doses for a few days, relieved the symptoms, and in two weeks she was pretty well.

No. 3.—Sept. 26. Miss B., aged 18, has had for a few days chilliness, pains in bones, and other feelings which she thought heralded ague. I found skin and eyes yellow; urine like coffee; stools white, and several in 24 hours; pain just above navel; soreness on margins of ribs and at pit of stomach; still moving about her work. A few cathartic pills, some cream of tartar as drink, and she convalesced in a few days. High ground, ¼ mile from No. 2.

No. 4.—Mrs. C., aged 27, at 7th mo. of first pregnancy. Has been complaining for nearly two weeks of chilliness, pain in bones, loss of appetite, soreness of abdomen, &c. Now, Oct. 3d, jaundiced symptoms present; much pain in epigastrium; frequent vomiting. On 5th, pains like those of labor began, and continued to recur from time to time until the 8th, when she was delivered of a small feeble child, that lived but two or three hours. So great was the suffering in the region of the liver that venesection, cups, &c., were used before delivery. After confinement the liver could be felt enlarged and tender to the touch. She was very ill for eight days after, and then gradually convalesced; quite well ever since. The pulse generally about 60.

No. 5.—D. S., healthy, strong man, aged 30. Oct. 15th. Has been poorly, with "pain in bones, no appetite, bad feelings" for a week. Color of the skin alarmed him, and I was sent for; pulse 64; tongue natural in appearance; all the symptoms of confirmed jaundice; has been quite sore in hypochondriac region, but now only complains of pain at navel; has already taken two doses of purgative medicine; convalesced in about a week.

No. 6.—D. F., aged 13. Oct. 14. Has been poorly since last

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of September; for a week has been jaundiced, stools white, &c., &c.; has taken no medicine, and as I was called to see the mother and he is said to be better, I gave him no medicine, and he continued to improve, and in a week more was well, and has better health this spring, 1855, than he has had before; took no medicine of any kind; pulse 64.

No. 7.—Mrs. F., aged 35, and mother of No. 6, was "sore and stiff" for nearly two weeks before she saw the change in the skin, fæces and urine. It has been nearly 10 days since she has had confirmed jaundice, and the disease is abating, though she has taken no medicine, but she is alarmed to-day on looking at her urine. It is not so high colored as it has been, but is yellow and almost thick with ropy mucus. A lump can also be felt over the lower orifice of the stomach of the size of a medium orange, which is slightly tender to the touch; but for these considers herself getting well; pulse 64, and complains much of a taste like the smell of rotten eggs when eructations occur. Ordered a cathartic and some diuretics; convalesced.

No. 8.—L. S., aged 45, strong man, has had the disease strongly marked for a week; had pain nowhere, except *just above the navel*, although there was *soreness* all around epigastric and hypochondriac regions; no apparent loss of appetite, but always felt bad after eating, and several times threw up his food, but without much sickness; had taken epsom salts. Ordered rhubarb and magnesia; was well in about two weeks.

No. 9.—J. K. C., aged 18, active boy, has had pain in stomach; chills, &c., for a week; taste like that of hard boiled eggs, when he eructates; pulse only 60; no thirst; does not miss a meal, but is not hungry; jaundice well marked; mild purging relieved him in two weeks.

No. 10.—Miss M. L., aged 17. I was sent for on account of the deep yellow color of skin and eyes; has been intensely yellow for a week, but as she was a hired girl and made no complaint, she was left without medicine; complains scarcely at all of soreness or pain, even on pressure, yet the stools are chalky; urine like coffee, &c. Put her on the use of podophylline, first as a purgative, and afterwards as an alterative; convalesced in about three weeks. Although there was such an absence of suffering in this case, I thought I could plainly feel an enlarged liver.

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No. 11.—Mrs. M. F., same house with the above, aged 47; well marked case; convalesced in two weeks.

No. 12.—Mrs. Mc., aged 36, married, pregnant at 7½ month with 7th child. Nov. 13. Has had giddiness and dulness in head for about one week; all the symptoms of the disease strongly marked; frequent eructations of the sulphuretted hydrogen taste; very giddy, so as to be compelled to lie down often. Her first symptoms were itching and burning in hands and feet at 4 o'clock every day. In about a week this left the hands, then the feet, and spread all over the body in the same way, at 4, P. M. This was accompanied with cough, which continued till some time in the night, and then they declined together. Although these symptoms occurred every day about 4 P. M., yet she was much worse every other day. Saw her Nov. 13; is very *giddy*, not sick; giddiness and yellow tinge of skin came on about a week since; taken one dose of quack pills; tongue nearly natural in appearance; no thirst; pulse 64; intensely yellow, quite costive; itching over the whole body, and but for the giddiness would be able to do her work. The pills which she had taken operated well in a few hours after my visit, and next day her pulse was at 80. Tuesday 21. Has taken quinine and rhubarb and blue mass since last visit; still thinks she is worse every other day; stopped all medicine to watch the case for a day or two. Wednesday 22d. She says that yesterday near evening, while up and about, pains and purging came on, so as to compel her to be on the chamber nearly constantly; at midnight took 20 drops laudanum, which relieved the pains, but the purging continued, and this morning on measuring the discharges I find a full gallon of whitish water with shreds and patches of white mucus such as occur in dysentery; swelling of the feet (which I forgot to mention) has disappeared. Ordered ext. bark. Friday 24. Feels pretty well, but no change in the jaundice. 27th. Delivered of a living child at 8th month. Dec. 5. Feels pretty well; yellowness slightly diminished; urine very high colored; stools white; has pain after eating, and yet the tongue looks quite natural; slowly recovered; nursed the child; milk did tinge the linen slightly I thought; child did well.

No. 13.—Mrs. J., aged 30, pregnant with third child, at 7½ months. Symptoms well marked. Labor came on in a few days; child and mother did well.

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No. 14.—J. D., boy aged 10. Well marked case; Nov. 2d.

No. 15.—J. L., strong man, aged 26; poorly for two weeks but still at his work until to-day, Nov. 20; so wretched now he can work no longer. Chills; pain at navel; soreness in right side; thinks he has something like ague every other day; bowels moved twice nearly every night; pulse only 60 at any time until convalescence; tongue nearly natural. Bone-set infusion to vomit; bath; ex. bark. Dec. 1, convalescent.

No. 16.—C. L., healthy man. Nov. 14th, has been poorly nearly two weeks; now confirmed jaundice; is sore in epigastrium and margins of ribs, but refers all his pain to a spot an inch above the umbilicus; appetite impaired; slight thirst; pulse of natural fulness, but only 64 per minute; tongue slightly furred. Nov. 16, has been well purged; feels better, but pulse is now only 56 per minute; convalescent in a few days (aged 45).

No. 17.—Miss B. C., aged 5, not well for nearly two weeks; mother thought she had something like "dumb ague;" is now deeply jaundiced; capricious appetite; tongue nearly natural; playing almost as usual; pulse 66; well in two weeks.

No. 18.—T. L. a healthy carpenter, aged 22. Nov. 13 felt drowsy, and noticed a yellowness of skin; but about 17th had pain and soreness of abdomen, giddiness, shooting pain in the region of the heart; chills and fever several times a day; soreness of body on making a mis-step, or on lying down. I saw him on 21st; confirmed jaundice; pulse regular, and just 60 per minute; *tongue quite natural; appetite craving;* no enlargement of liver. Gave an aperient sol. of aloes and bi-carb. of soda every three hours, so as to purge daily. Nov. 25th, getting well. This case was doubtless recovering before I saw him, as the bitter taste had left him on the 19th, and appetite had become craving.

No. 19.—Mrs. L., aged 38, nursing her third child. Jan. 1st, 1855, has had chills and fever for two weeks nearly (never had ague.) Is intensely yellow; has a bitter taste, and everything she has eaten for many days has made her feel sick, but she has not vomited. She has thirst, but her tongue is clean and her pulse natural—72 per minute. Ordered sulph. zinci and ipecac. as an emetic, followed by podophylline as a cathartic. In four days much improved and considered as convalescent; pulse still at 72.

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No. 20.—H. S., aged 15, strong healthy boy. Saw him Jan. 15; has been poorly since Jan. 5; had nausea; soreness of abdomen; pain above navel, and vomited once on taking some medicine; strongly jaundiced, and *pulse only* 52; purged him well; convalesced in a few days.

No. 21.—Irish boy aged 5. Jan. 9th, well marked *case;* gave podophyllin; it vomited and purged freely, and he began at once to convalesce.

No. 22.—Hired girl but a few weeks from Germany; aged 28; has been poorly for two weeks; strongly jaundiced; on compound cathartic pills; relieved.

No. 23.—Miss E. L., aged 24. Strongly resembled an intermittent fever, but resisted the treatment by quinine; the symptoms of jaundice developed and then yielded to purgatives.

No. 24.—Miss H., aged 3 years; quite poorly for a week; all the well marked symptoms of jaundice; pulse 60; convalesced in a week.

No. 25.—Mrs. H., well marked case; sick two weeks, but has continued at her work. Treated by purgatives.

No. 26.—Mrs. L., aged 50; chills and fever; finally jaundice; cathartic every two or three days; convalesced.

No. 27.—Mrs. E. L., aged 48; quite a severe case; tried Dr. Physic's alkali and brandy medicine; produced severe vomiting; mild cathartics did well; pulse 56.

No. 28.—Mr. S. aged 26, shoemaker. Saw him Jan. 25; walked to my office. Five days since he first noticed his skin and eyes yellow; had felt well before, except a little uneasy for a couple of hours after eating; has vomited on two or three occasions; has had heart-burn and hiccups. Took a glass of brandy to sweat himself, but it vomited him severely; has no pain or soreness in the abdomen; is quite yellow. Ordered ap. sol. to move bowels gently every day. Convalesced speedily.

Dr. Leedom says, in a note to me, that he "had three cases of jaundice at Barren Hill (the infected district.) One was in an old man of 60 years; another a stout, robust man of 45; the third a man of 26." Besides these 31 cases, there were 7 who did not apply to any physician, or were prescribed for by some one in the neighborhood, and of which I have no account; these were all well marked cases, and known to me; doubtless there

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were other mild cases. All the cases save two were on the high ground along the Germantown and Reading Turnpike Road, and most of them within a space of less than half a mile; twelve cases occurred in nine families within a few yards of each other, and all at nearly the same time. There were twenty males and eighteen females. Of the males there were married 11; unmarried 9; two were over 70 years, four from 50 to 60, two from 40 to 50, three from 30 to 40, five from 20 to 30, one from 10 to 15, and one of 3 years. Of the females there were married 8, widows 2, unmarried 8; three over 40, three over 30, five from 20 to 30, four from 17 to 20, three from 3 to 5; four pregnant at from 6½ to 7½ mos., and had premature labors. The two children born at 7th month died within a few hours. Those at 8th month grew finely.

While many of the above cases were very severe, particularly those of the pregnant women, all recovered, and have been in good health ever since—a period of nearly six months. It may be said by some that these were cases of intermittent fever. In the course of my practice I have had many isolated cases of jaundice, and I can truly say that not even those from obstructions produced by gall stones were purer cases of jaundice than these. Intermittent fever has seldom appeared, even to the most limited extent, in the region where this epidemic prevailed most. In 1854 it did not prevail anywhere in this region. Now let us notice a few facts. Intermittent fever has pain in the back and head; furred tongue; thirst; quick pulse, &c. These cases were generally free from thirst; pulse slow, often from 50 to 60 in persons under age; tongue *natural in appearance*; no pains in the back; soreness in pit of the stomach and on margins of ribs; *pain* always at or an inch above the navel; ability to eat, but generally uneasiness after doing so.

Jaundice as an epidemic is new to me, but I offer these cases as food for thinking minds. Let us look at them all at once. Forty persons, of all ages and both sexes, and in good health, find themselves gradually becoming of a deep yellow color; pulse which was at 72 falls to 50 or to less than 60. The stools become white as chalk, and for the first few days there are several stools daily. The urine looks like coffee infusion; there is a pain near the navel, and soreness at pit of the stomach and on the ribs;

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there is nausea and vomiting at times; but mark, with all this evident change in the proper performance of the functions of the liver, in this *bilious* condition of the system, there is no thirst, no coat on the tongue, but on the contrary it is *natural in appearance.* The liver does not act, or, to use a common phrase, it is torpid, and yet the tongue is clean. There is pain and soreness in the abdomen, but the pulse is reduced fifteen or twenty beats per minute. It is evident that this torpor of the liver—this want of bile in the intestines, does not cause a change in the appearance of the tongue nor produce thirst. How must those persons be at fault who are always seeing a disordered condition of the liver in the furred tongue; and how pernicious is that error when it leads them to goad the system with that supposed specific for torpor of the liver, in order to clean the tongue. Is it not probable that the tongue is seldom affected except by disorders of the stomach alone?

The treatment pursued by me was by mild laxatives and purgatives. The podophylline was several times used as a substitute for the mercurials, or in other words as a purgative, and with good effect. Others were treated by the aperient solution made of aloes and bi-carb. soda, so highly recommended by Dr. Mettauer, of Virginia, in constipation. Occasionally emetics of bone-set, diuretics, podophylline or rhubarb, as an alterative, and venesection and cups in a few cases. I have heard of jaundice as an epidemic, but I believe it is rare, as I have not seen it noticed in works on practice, except a mere reference to it by Dr. Wood in his Treatise.

Mineral and Thermal Springs of the United States.

By John Bell, M.D.

(Concluded.)

Warm Springs.—They are situated in a valley in the county of Bath, between two ranges of mountains, 170 miles from Richmond and 50 from Staunton, on the turnpike road which leads to the Ohio. There is not a more delightful natural warm bath to be found in any part of the world than is obtained in the reservoir which receives the water of the chief spring. Its temperature at first 98° F., is soon reduced to 96°, and for mere

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luxurious enjoyment it would merit a visit from Hudson's Bay, not to speak of Canada or New England. The large bath is of an octagonal form, 88 feet in diameter, and, on an average, five feet deep. Nitrogen gas is largely evolved, and, in small quantities, carbonic acid and sulphuretted hydrogen gases. The solid contents are in small quantity, not 24 grains in a gallon of the water. In addition to the large octagonal bath for gentlemen, there are now a ladies' bath and a spout bath, and also a cold plunging bath near the first of these. The quantity of water given out by the warm spring has been estimated to be a thousand gallons a minute.

All that has been said of the enjoyment from warm bathing, and its utility in a long list of diseases, is applicable to the external use of the Warm Spring water. Having already enlarged on this subject in my work on "Baths and the Water Regimen," I shall not dwell on it at this time. Adequate attention is not paid to the systematic use, internally, of this water, which, although possessed of little mineral strength, might be made a powerful and an efficacious auxiliary to the bath. In plethoric and inflammatory states of the system, and with a tendency to cerebral determination and excitement, caution must be displayed in the large or prolonged employment of this double remedy; for, although the temperature is such as to bring it within the limits of the warm bath, it comes so near the hot as to prove in many cases a stimulant, and, as such, it is not to be trifled with under the circumstances just mentioned.

The house at the Springs is one of the best.

Hot Springs.—These Springs are situated five miles west of the Warm, and in the same county of Bath. The hotels and cabins have little in their appearance to recommend them, but the table is said to be very good. The water of the baths—six in number—is from 98° to 106° F., and it is so distributed as to allow of its use by immersion in the common way, and by the douche or spout. As no person in his senses, who is in common health, ought to take a *hot* bath for mere pleasure, these waters are resorted to by the sick and invalid, and hence there is not the crowd at the Hot which is so common at the other springs, especially the White Sulphur.

Unable to enter into minuteness of detail as to the modes and

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times of employing the waters, or to specify the diseases to which they are applicable, I must content myself with remarking that they are too powerful to be had recourse to except under medical guidance. As excitants of the first class, they are only adapted to diseases of functional debility, without inflammation or active congestion, or fever. In chronic rheumatism and gout, and in chronic stomachic and intestinal diseases, in which the circulation is languid and the skin cold or clammy, the tongue moist, with an absence of thirst, the hot bath and hot douche and drinking the hot water display, often, wonderfully restorative powers. So, also, in tumid livers and spleens after a subsidence of fever and phlogosis, in paralysis where the brain has recovered its functions, and in stiff and anchylosed joints and indolent and scrofulous tumors, old ulcers and chronic diseases of the skin, especially of the scaly kind, these means deserve a full trial. The application of hot water by douching adds greatly to its power.

Healing Springs.—These springs, only noticed within a few years past, are three and a half miles south of the Hot Springs. The temperature of the water, as tested by Dr. Burke, is 84° F. In composition, he represents them to resemble closely the Sweet Springs, and perhaps the Red Sweet more. They are, according to the popular belief of the neighborhood, invested with miraculous powers. They are most extolled in rheumatism, sprains, herpetic eruptions, and scrofulous ulcers. As a bath their temperature makes them adapted to a large class of persons.

The Group of Sulphur Springs.—On leaving the Hot Springs the traveller reaches, after a journey of 35 miles in a south-western direction, the White Sulphur Springs; and if he continue on westwardly he comes to the Blue Sulphur, distant 22 miles from the White. The Salt Sulphur Springs are 24 miles south-west from the White, and the Red Sulphur are 17 miles further on in the same direction. This is not the place to speak of the geological relations of these several Springs, nor to inquire how far they are all referable to the class of what have been called, of late, by some, Secondary, or Accidental Sulphureous Springs, in contrast with those of the Pyrenees, chiefly thermal, by the way, which alone are thought to belong to the class of the Natural or Primary Sulphureous. For the latter have been claimed a therapeutic energy by no means proportionate to the amount

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of their constituent principles; so that some of them, with only half or even the fourth of the latter contained in the secondary class, will, we are told, display much more curative power. These are points on which I can only enlarge with advantage in my forthcoming volume,* in which the natural history of both common and mineral, and thermal springs, and their peculiar features, as exhibited in different parts of the world, will be given in requisite detail.

Whatever result may be reached in an inquiry of this kind, no one can contest the really curative virtues of the waters of this entire group; at the same time, no one will deny that they are all endowed with such therapeutical energy that they must be either beneficial or mischievous, according to the wisdom of the prescriber in adapting their use to meet the requisite indications. No visitor at a sulphur spring can gorge himself with the waters, for experiment or amusement, with impunity. In fact, few remedies are as diffusive in their action on the animal frame, or as searching and alterative on the tissues, as the sulphureous. But, in order to produce their full and salutary effects, they ought to be administered in quantities, or doses, of moderate strength and for a lengthened period, and in that state of dilution in which they are found in mineral springs. By this means we shall avoid, in a great measure, that excitement and disturbance of function, resulting from the common indiscriminate use of the waters, which not seldom constitutes a disease in itself, or brings back with aggravation the original malady they were intended to remove. Some, particularly the German physicians, insist on the necessity of a morbid reaction of this kind, especially after the prolonged use of baths of a high temperature, which they call bad-storm or commotion. Were we to admit this, it ought to be regarded as a conclusive reason for a longer time being taken and greater patience displayed by the invalid, and more watchful superintendence on the part of the physician than are conceded for the treatment of a case of chronic disease at any of the sulphur springs. To do full, we ought rather to say common justice to such a case, the methodical and

* I do not refer now to the Manual on the Mineral and Thermal Springs of the United States which is now in press; but to a more complete work in progress, of which this is but an instalment.

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regular use of the bath must be enjoined with drinking of the water.

Experience has pretty well established the fact of the water of the *White Sulphur Springs* on Howard's Creek, the original White Sulphur, of Greenbriar county, being the strongest, most active and stimulating, and, therefore, when misapplied, the *most* mischievous of the group; and which requires the greatest caution in its use. These matters will be regulated by physicians *on the* spot. Among these, Dr. Moorman has given us the result of his now somewhat long experience of the remedial value of the White Sulphur Water, in a small volume, entitled "The Virginia Springs." The temperature of this water, 57°, (he says 62° F.) is some *degrees* higher than that of the common springs of the district, and makes it rank in the quasi thermal class.

The *Red Sulphur Spring* furnishes a water which is the mildest of the group, and perhaps of its class, and it has even been regarded by some as sedative in its operation on the animal economy, although this is a contested point. Still more, it has been extolled for its power to cure pulmonary consumption itself. Instances are recorded of its effects on the action of the heart, so as to reduce the beats of this organ from upwards of 100, and even 120 and 130, to 70 and 65 in a minute. Drinking of it allays thirst and causes sleep. That it has a really soothing and salutary effect in tracheal and bronchial irritation seems to be pretty evident; but of its curing consumption we have, I believe, no well authenticated proof. It will not probably aggravate this disease, as the water of the White Sulphur does. For details of the operation and curative powers of the Red Sulphur, the reader is referred to the work of Dr. Burke, on "The Mineral Springs of Virginia."

Salt Sulphur Springs.—The designation of salt is hardly explicable by the very minute quantity of chloride of sodium which enters into the composition of these waters. It contains *larger* proportions of sulphates of soda and magnesia. The temperature varies from 49° to 56° F. As more aperient and *diuretic* than some others of its class, the Salt Sulphur, though it must still be ranked as an excitant, is applicable to mixt cases of *febricula* and languor, as in chronic dyspepsia and renal affections, and chronic diarrhœa; in some of which the frequency of *the*

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pulse has been diminished under its use. The water of the "New Spring," with a smaller proportion of saline matters, has more evident traces of iodine than the "Old Spring."

The Blue Sulphur Springs (Greenbriar county) are thirty two miles from the Red Sulphur, and nearly the same distance from the Salt Sulphur Springs, and twenty-two miles from the Sweet. Resembling in their chemical properties those of the White Sulphur, these waters are applicable to the same diseases, and require the same precautions for their use as the former.

The Sweet Springs, among the first of the mineral springs of this region which were visited by invalids, still retain their early attractions. They are situated on the eastern border of Monroe county, seventeen miles from the White Sulphur and twenty-two from the Salt Sulphur, in a beautiful valley, bounded on the north by the Alleghany, and on the south by the Sweet Springs mountain. It is the spot where the last rally of visitors is made for the season, before separating for their several homes.

The temperature of the water, 74° F., places it in the thermal class. In taste sub-acid and slightly alkaline, and evolving freely carbonic acid, it belongs to the class of acidulous waters, and may be used with the same benefit as these are. It is applicable, therefore, to irritable dyspepsia, with gastralgia, and to renal and hepatic colic, and to bilious diarrhœa. In renal affections, and especially in those of the lithic and phosphatic diathesis, and in irritable bladder, it is calculated to do much good, when continued for an adequate period. The same remark applies to chronic gout, of which these disorders are often varieties.

The full therapeutical value of the water of the Sweet Springs is far from being properly appreciated; and if a careful clinical record of each disease regularly subjected to its use were to be kept for a few seasons, by a resident physician, it would show, that these springs might be compared most advantageously with some of the most noted of the class on the continent of Europe. Their tendency, after a time, to produce constipation, and their immediate effects, evinced in fulness of the head and often drowsiness, point to their cautious use, if not, for a while, at least, their being withheld, in general and also in local plethora.

The copious supply of the water for bathing, and its tempera-

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ture, are such as to attract many to the spot on this account alone, who would not take a cold bath, but who find in this temperate one a means of refreshment and invigoration, some would say rejuvenation, in which old Jason himself might have rejoiced, notwithstanding the marked preference of his daughter and doctress Medea for the hot bath.

Red Sweet Springs.—These are only a mile distant from the Sweet Springs, which they closely resemble in all essential particulars; with the exception of their being more evidently impregnated with iron than the latter. The two prominent gases are nitrogen and carbonic acid, in the proportion, respectively, of 62.5 and 37.5 per cent. Of the three springs, the upper has a temperature of 77° F., the middle 80°, and the lower 79°, the waters of which blended into one stream, give a temperature of about 78° F.

Dibrell's Spring, on the road from the Natural Bridge to the White Sulphur Springs, belongs to the sulphureous class.

Rawley's Spring, a strong and simple chalybeate, is in Buckingham Co., twelve miles from Harrisburg, and one hundred and twenty northeast from the White Sulphur.

The Holstein Springs are in Scott Co., in the southwestern angle of the State, near the Tennessee line, forty miles from Abington, and sixty from the Warm Springs of Buncome Co., N. C. One of them comes within the thermal limits, being 68°.5 F., or fifteen or sixteen degrees higher than the common springs of the country around. Of the saline constituents of the water, the chief ones are sulphates of magnesia and lime; the saline contents altogether being 41.14 grains in the gallon. It is represented by Dr. Gaines, to whom I am indebted for all the information I have on the subject, to be actively diuretic, and with suitable appliances diaphoretic. Its action on the bowels is induced, by restoring to the digestive canal its lost tone and healthy secretions. With proper caution, the bath will be found serviceable in certain cases.

In Eastern Virginia I have to speak of two springs which merit attention.

Church Hill Alum Spring.—This is a recent addition to the mineral springs of Virginia, having been discovered or rather opened only a few years ago, in the process of levelling a street,

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which bordered on the garden of a lady in the city of Richmond. The supply of water is abundant, and its mineral constituents place it nearly at the head of this class of springs. An analysis by Professor Booth shows it to contain 184.5 grains of alkaline salts, 159.5 of salts of iron, and 7.8 of persulphate of alumina in a gallon. Of the alkaline salts nearly one half is Epsom salts. On this account it is generally aperient, while, at the same time, in view of its large aluminous and chalybeate impregnation, it manifests actively tonic and astringent properties. This alum water is of great value in a number of diseases, such as passive hemmorhage, the profluvia, nervous diseases, and cutaneous and ulcerative affections. It is used to a considerable extent in Philadelphia, and I have myself often prescribed it with decided benefit. It, like others of its class, varies in its strength according as a rainy or a dry season prevailed.

Huguenot (formerly Howard's) *Springs.*—These are two in number, a *Sulphureous*, and a *Chalybeate*, situated near James River, in Powhattan Co., 17 miles above Richmond, on the the main river road, between that city and Lynchburg. The Sulphur Spring resembles the White Sulphur, but its water is not so strong as that of the latter. The temperature of this water is represented by Dr. Royster to be several degrees higher than any other sulphur water with which he is acquainted. The precise degree is not mentioned. Suitable arrangements have been made for the reception and accommodation of visitors at the Springs.

Here I must cease from any further attempt at even brief descriptions, being compelled to close this article for want of space. I can only allude, therefore, to the thermal springs of Buncome county, N. C., with a temperature ranging from 94° to 104° F., and those of Ouachita, (Washitaw) in Arkansas, with their vapor baths, from 90° to 154° F. Kentucky can boast of the active Blue Lick Sulphureous and Harodsburg Saline Springs; Alabama of the *Bladon Acidulous Springs*, with some sulphureous impregnation; and *Baily's Spring*, *acidulous* and *chalybeate;* also several other mineral artesian wells, obtained when boring for common water. *Cooper's Well*, in Hinds Co., and the *Ocean Springs* in Jackson Co. Mississippi, whose waters are *Sulphureous*, *Saline*, and *Chalybeate*, also merit a distinct notice. I have tolerably full

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notes of the mineral springs of Canada, and of the Thermal, Saline and Acidulous of Desorta, New Mexico, and California.

In conclusion, I would again renew my request to my medical brethren and other friends of science in the United States, to favor me with any information on Mineral and Thermal Springs, and also noted Common Springs which are much resorted to—in addition to those noticed in this article—so that my work may be as full and comprehensive as possible. Of the numerous acidulous and other springs of Florida I have as yet but little knowledge. Farther details respecting those of California and the whole northwestern territory would, also, be very acceptable.

Case of rapidly fatal Cholera-Morbus, from the presence of crude food in the bowel. By J. Forsyth Meigs, M.D.

Miss M , æt. 55, the subject of the following case, had had rather feeble health for some years, being subject to frequent attacks of dyspepsia and diarrhœa. Her general appearance was frail, but there was no evidence of positive organic disease of the great organs. She had had for a number of years double femoral hernia.

I was sent for at 9 P. M., of May 18th, 1855. She had been as well as usual in the morning, and was busily occupied about the house until between 2 and 3 P. M., when she was seized with considerable pain in the abdomen, and some diarrhœa. Nevertheless, she continued actively engaged in house-cleaning until 5 P. M., when she went to bed complaining very much of severe and griping abdominal pain, with frequent desire to go to stool. The dejections were very small. During this time she had, also, a great deal of nausea and retching, but rejected only small quantities of fluid from the stomach. At 9½ P. M., when I saw her, her countenance looked badly. The first impression it gave me (and correctly too, as the event proved,) was that she was seriously ill. The face was pale, anxious, somewhat pinched, and, in fact, choleratic. The pulse, however, was of good volume, not weak, regular, and only 92 in the minute. The skin was natural, neither too warm nor too hot. The tongue was moist and clean. On examining the abdomen, I found the lower half tumid, rounded, quite tympanitic, and somewhat, but not very

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tender to the touch. The muscular force was good, as she turned freely in bed at my request, and had been rising often to the sick-chair. There was no fault in the intelligence or senses, and she expressed herself as not feeling seriously ill. There had been some ten or fifteen discharges by stool during the afternoon, some of which I saw, and found them to consist of small quantities of mucus and blood. I could not learn that there had been any indiscretion in diet, or any other cause for the attack.

Supposing the case to be one of sudden dysentery, I ordered a large teaspoonful of castor oil with ten drops of laudanum, and some pills of opium and gallic acid, to be taken afterwards. A laudanum injection was to be given if necessary.

I did not see the patient again, as she died very suddenly in the night, but learned, upon inquiry, that the discharges ceased almost entirely soon after my visit, though there was still frequent desire to go to stool. The pain in the abdomen was violent, at times intense. About 1 o'clock in the night her hands were observed to be very blue, and her mind wandered a little. At 1½ o'clock she suddenly expired, just after having been raised up in bed momentarily, at her own request, in the hope of alleviating her suffering. As she was dying, there was rejected from the stomach a very large amount of thin liquid of a dark color.

At the post-mortem examination, on the following day, the appearances were as follows: Abdomen very much distended, and highly tympanitic. On opening that cavity the distention was found to occupy chiefly the small intestines, whilst the large was rather diminished in size. A small amount of reddish serous effusion was observed in the posterior part of the peritoneal cavity. No traces of peritoneal inflammation. On each side was the sac of an old femoral hernia, but entirely empty, and without a sign of inflammatory action. Stomach large, much inflated with gas, and containing a very large quantity of pinkish serous fluid; its coats, especially about the pylorus, softened. Small intestine greatly distended down to within about eight inches of the cœcum, and filled with gas, and particularly with enormous quantities of a thin, watery serum, colored of a marked pinkish tint. The amount of this fluid was immense, it being found at all parts of the small intestines, and rushing out in a full stream wherever these were opened. The mucous membrane was healthy, being

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of the proper color and consistence. Shining through the peritoneal coat, however, as the intestine was viewed from without, there was, here and there, a somewhat marked arborescence. Eight inches above the ileo-cœcal valve was found a foreign body, filling up rather completely, but not entirely obstructing, the calibre of the intestine. In the immediate neighborhood of this body the mucous membrane was slightly injected, somewhat softened, and the isolated glands were a little enlarged. The foreign body consisted of a portion of apple scarcely at all softened by the alimentary fluids. A thin layer on the outside was alone softened, while the interior was scarcely moist even. The piece of apple consisted of about one-third of a medium sized one. It measured about two inches in breadth, and the same in length.

Below the point where the apple was found the intestinal canal was healthy. The only deviation from the natural appearances was an unusual contraction at some parts, in the diameter of the tube. None of the purplish serum above spoken of was found below the point where the apple was lodged.

Remarks.—The above case was clearly one of cholera-morbus caused by the presence of crude food in the intestinal tube. The piece of apple which caused the death of the patient was too large to have been swallowed in the form in which it was found. It must have been swallowed as dried apple, in which state, having lost all its fluids, it would not possess more than a fourth or sixth of the bulk it did in the recent state. This case is, therefore, still another instance of the frail tenure by which life is held, and another proof that the health, and even the life of the human being is, to some extent, at least, within his own control. Had this woman been taught more caution about her eating, had she been taught even a little physiology in her younger days, she had never swallowed a mass of hard, coriaceous, dried fruit, which, at the best, would task severely the solvent power of her stomach, and at the worst, might pass undissolved into the intestine, and there so irritate and disturb the order of vitality as to cause death in the short space of less than a single day.

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Of Cephalic Version in Shoulder Presentation with the Arm in the Vagina. By R. A. F. PENROSE, M.D.

(As read before the College of Physicians.)

The case to which I wish to call the attention of the College, is interesting, as having been one of difficult labor, in which an unusual method of delivery was attempted and entirely succeeded. The case to which I refer was one of shoulder presentation, and the treatment consisted in bringing the *head* of the child to the superior strait, instead, as is almost universally recommended, making version by the feet.

My attention had been called to this plan of treatment for similar cases by a pamphlet of Dr. Wright, of Cincinnati, in which he advocates the resort to version by the head in all cases where the shoulder presents, even though the arm of the child be in the vagina.

It is not necessary that I should ocupy the time of the college in referring to the opinions of authors on this subject, as they are doubtless well known to all present; the almost universal direction in these cases being, particularly when the arm is in the vagina, to resort to version by the *feet*.

The following is a history of the case which I take from my notes:—

On the evening of the 3d of April I was called, by a midwife, to see Mrs. M——, as a case of difficult labor which she could not manage. On reaching the patient I learned that she had been taken in labor some time in the morning; that at two o'clock she had given birth to a child, and that the midwife, on making an examination, discovered a second child, presenting by the shoulder, its arm being in the vagina. This was at two o'clock in the afternoon. I did not see the patient until about seven o'clock, five hours after the rupture of the membranes. I then found her with the uterus contracted spasmodically upon the child, suffering a great deal of pain in consequence, whilst her condition had not been at all improved by brandy freely given by the midwife.

On making an examination, I found the arm in the vagina, considerably swollen, the shoulder at the superior strait, the head high up in the right iliac fossa, being readily felt through the abdominal walls, the back of the child towards the symphysis pu-

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bis. Having carefully diagnosed the position of the child, I determined to resort to version by the *feet*, but met with so much difficulty from the firm contraction of the uterus, together with the great irritability and restlessness of the patient, who rolled and struggled so violently when I attempted the operation, partly no doubt from the effects of the brandy she had taken, that I was forced to desist. I then determined to try the plan of treatment as suggested by Dr. Wright, which consisted, as the first step, in carefully returning the arm into the cavity of the uterus, which was not very difficult, and then, with two fingers on the shoulder I endeavored, not so much to push it up, as to slide it away from the superior strait, attempting, in fact, to imitate spontaneous version, by causing the whole body of the child to revolve in the cavity of the uterus; this action upon the shoulder was very much facilitated by an external manipulation, through the abdominal walls, upon the head in the iliac fossa, which consisted in attempting to force it toward the superior strait. To my surprise the shoulder readily yielded and ascended; the next minute, still continuing the process, the neck, and shortly after the side of the head, were felt at the superior strait, and then, by a little more manipulation, the vertex was brought down in the left occipito-anterior position. The moment the head was placed in the proper position, the patient expressed herself completely relieved from the severe pain she had been suffering for hours.

For a time, the uterus ceased entirely to act, but pains coming on they were stimulated by ergot, the parts having been dilated by the passage of the first child, and, in about an hour after, the child was born ALIVE.

It is proper, however, to state, as explaining, to a certain extent, the facility with which the operation was performed, that the child weighed only five pounds, yet on the other hand it should be recollected that the smallness and mobility of the child is perhaps the most common cause of shoulder presentations, and hence, in such presentations, we may expect, very generally, to have small children to deal with, and moreover that version by the *feet* had been attempted, and had not been accomplished.

It might be urged that, as the child was not large, the case

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might have been left to nature, and labor terminated by spontaneous evolution. But what are the facts of the case? Five hours had elapsed since the rupture of the membranes, and one of the earliest changes noticed when spontaneous evolution takes place had not yet occurred; I refer to the rotation of the presenting shoulder to the symphysis pubis, as preparatory to its engagement beneath the arch; indeed, the spontaneous expulsion of the child in these cases is the exception, not the rule; and when it does happen, if we think for a moment on the mechanism of labor by which delivery is accomplished, we cannot fail to perceive that the mother must be exposed to all the dangers attending a long and painful labor, while the child is so powerfully compressed that death is the general result. Velpeau gives statistics of one hundred and thirty seven cases of spontaneous evolution, in which but twelve children were born alive.

It is asserted by some that an error of diagnosis has existed in those cases where it is stated that version by the vertex has been successfully performed in shoulder presentations; that they have been really cases of head presentation, complicated by a descent of the arm. But this certainly was not so in the case to which I refer, the head being distinctly felt in the right iliac fossa, through the abdominal walls, whilst the partial introduction of the hand into the cavity of the uterus, in the attempt to make version by the feet, enabled me perfectly to recognize the position of the child.

Again, it is said that the operation of version by the vertex is a very difficult one, that we cannot, without subjecting the mother to very great danger, push up the presenting part of the child, and search for the head; and then, having found it, that we cannot grasp the round and slippery occiput and bring it to the superior strait. This objection in many cases may be well founded, but the operation which I have related consisted, rather, in pushing the shoulder away from the superior strait, causing, thereby, the child to revolve in the cavity of the uterus; of course as soon as such a motion of rotation is communicated to it, by pushing away the shoulder, we must, of necessity, have some other part brought to the superior strait, which part will be first the neck, then the head, and by a little manipulation the occiput can be brought down, and an *impracticable* case of labor can be

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thus changed, without, or with comparatively little pain to the patient, and in a few minutes, to one of the most simple character; and not only thus changed, but effected without exposing the child to the great risks to which it is always liable when version by the feet is resorted to; and, if an attempt to make version by the vertex should fail, without giving our patient any more pain, our hand being in the vagina, our fingers in the mouth of the uterus, we can most easily, if the case admit of it, pass our hand upwards, grasp the feet, and bring them down.

Remarkable Case of Obesity in a Child.

By W. S. Cochran, M.D.

Editor of the Medical Examiner:

The subject of this notice residing within a few miles of the village of Darlington, Beaver Co., Pa., is a boy, not three years old till July. The child's mother, together with some others of the family, showed a disposition to corpulency during the first year of their lives, but as soon as they began to walk they became reduced to an ordinary size; hence, in some degree, it might be said to be hereditary in this case. There was nothing remarkable about this child at birth, nor did it show a disposition to "grow fat" till about the seventh month, since which time he has been the wonder not only of the immediate neighborhood, but has attracted visitors from a considerable distance.

The following measurements were taken with the tape applied to the skin, so that they exhibit the *naked fact*:—Measured around the chest 36 inches; abdomen 40; upper part of arm 10; wrist 7; upper part of thigh 26; ankle 12; height 3 feet; weight 98 lbs. He has gained six pounds during the last seven weeks. His head is proportioned to the rest of his body.

With a view to prevent this excessive adipose secretion, he has been confined to a light diet, never using meat, rarely milk, bread and coffee being the articles chiefly relied upon. His intellectual development is fair, about what we would expect from a child of his age who had been considerably among strangers. It is hardly necessary to say that he enjoys the best of health. The case is exceeded by a few on record, yet it is certainly an astonishing example of polysarcia, and one which—if he lives and increase proportionately—will rival the celebrated Lambert.

Darlington, Beaver Co., Pa.

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Report upon Vaccination in the Royal Prussian Army. By Dr. Schilling, Royal Brigade Physician in Aschersleben.

(Translated for the Medical Examiner.)

Universally acknowledged and introduced, vaccination within fifty years has spread itself over the whole surface of the globe, and rendered complete by observation and experiment, has stripped the horrible plague, small pox, of its form of terror; and our only cause of regret is, that we are not in possession of similar protective weapons to oppose the other pestilential enemies of our race.

Those peculiarities of mind, closely allied to each other, that on the one hand prompt many to believe greedily in things the most marvellous and contradictory to their senses, as table moving, spirit rappings, clairvoyance, &c.; and on the other, cause some, like Schöpfer, in his proof of the static condition of the earth, to deny and treat as old delusions, facts that have been obtained by toilsome investigation and are recognized as established truths, and are among the characteristics of our age. Thus, not only are the beneficent results of this discovery now placed in question, but vaccination is even arraigned before the tribunal charged with the greatest crimes, namely, of having for fifty years been engaged in poisoning the population of the world.

It is not, of course, my intention to answer these charges, nor to undertake to prove that cholera, typhus, scrofula, scarlatina, croup, hydrocephalus, tuberculosis and its kindred evils, by whatever name they may be called, have not entered upon the stage of human misery, in consequence of the repeated inoculation of the variolous poison; that would be a work of supererogation. Besides, wherever justice rules, the custom is well established, that the prosecutor cannot merely accuse and leave to the defendant the task of proving his innocence, but the accuser must furnish the proof of his assertion. My purpose is simply to furnish a statistical contribution to the vaccination question that has of late repeatedly become a subject of debate. It is my object to prove the protective power of re-vaccination by the statistics of a military district in my neighborhood, embracing a period of 20 years, and of 859,880 re-vaccinations. Whether we view re-vaccination as merely rendering previous vaccination complete, or

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as proving the entire absence of the same, is a matter of indifference.

By the Supreme Cabinet order, dated June 30th, 1826, it was ordered that all persons in the military service should be vaccinated, who had not previously been vaccinated, or who did not bear upon themselves perceptible marks therefrom. Eight years later, doubtless from the observations made regarding the loss of the protective power from the lapse of years, the Supreme Cabinet orders of June 16th, 1834, commanded the re-vaccination of all troops, without distinction, upon their enlistment, whether they bore marks of vaccination or not. Those persons only were excepted who already showed the unmistakeable scars of small pox. In section 4 of the circular of the Minister of War, it was ordered that the lymph should be obtained from youthful subjects vaccinated for the first time. By a circular from the chief of the military medical department, dated May 12th, 1837, it was made known that according to the results of numerous experiments made with lymph obtained from adult cases of genuine cow pox, re-vaccination quite as often gave rise to beautiful and regular pustules, running their usual course, possessing true protective powers, and with even a more lively reaction than usual.

In accordance with the above regulations, for a long series of years, all the troops enlisted were re-vaccinated by the military physicians, as soon after their assumption of the uniform as possible, with the single exception of those bearing positive signs of a previous attack of small pox. From the complete report of the physicians-in-chief of the different portions of the army, the following tables were constructed under the title of "The results of re-vaccination in the Army." Owing to the number of physicians (at least 300, including assistant physicians,) who took part in the inoculating and in watching the results of the same, all discrepancies and errors were removed, regarding the existence of the scars of prior vaccination, and of the regularity or irregularity of the course of the new vaccination. I now give the results of re-vaccination in the army from the years 1833 to 1852, both inclusive.

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Results of Revaccination in the Army.

1	2	3			4			5		6				7			8
Year.	Number of Vaccinated.	Scars showing previous vaccination.			Of the new vaccination, the course was as follows:			Of those without result, were repeated:		Number of genuine pustules obtained by the vaccination.				Statement of the number of successful cases of revaccination that were attended with variolous diseases.			Out of 100, true pustules appeared in
		a. Decided.	b. Uncertain.	c. None.	a. Regular	b. Irregular.	c. No result.	a. With success.	b. Without success.	a. 1—5	b. 6—10	c. 11—20	d. 21—30	a. Varicella.	b. Varioloid.	c. Genuine variola.	
1833	48,478	37,286	7,641	3,551	15,269	12,203	21,006	784	3,377	6,586	4,854	3,217	612	54	50	20	over 33
1834	44,454	33,634	7,134	3,686	16,679	12,287	15,488	866	3,664	6,763	5,028	4,088	800	46	31	2	" 39
1835	39,192	30,242	6,233	2,717	15,315	10,135	13,742	1,465	7,946	6,298	4,990	3,417	610	21	14	1	almost 43
1836	42,124	32,635	6,645	2,844	18,136	9,940	14,048	1,569	8,205	7,311	5,647	4,418	760	14	8	—	over 46
1837	47,258	37,299	6,903	3,056	21,308	10,557	15,393	2,243	9,771	9,174	6,414	4,767	953	14	7	—	" 40
1838	42,041	33,819	5,645	2,577	19,117	8,672	14,252	2,306	10,424	8,787	5,581	4,056	693	19	10	2	almost 51
1839	41,481	33,225	5,889	2,367	19,249	8,534	13,698	2,105	7,886	8,762	5,650	4,095	742	18	7	—	over 51
1840	43,522	34,573	6,177	2,772	20,952	8,820	13,750	2,831	8,958	10,021	5,875	4,171	885	7	2	1	" 54
1841	44,941	36,182	6,192	2,567	23,383	8,035	13,523	2,254	9,468	11,174	6,516	4,838	855	1	8	—	" 57
1842	42,582	33,185	6,751	2,646	21,865	8,056	12,661	2,029	9,536	10,697	6,223	4,200	745	9	4	—	" 58
1843	42,998	34,390	6,258	2,350	22,062	8,613	12,323	2,439	9,671	10,568	6,426	4,392	676	11	8	4	almost 57
1844	40,661	32,779	5,463	2,419	21,038	7,945	11,678	2,278	9,712	11,571	6,619	4,417	709	5	8	1	over 57
1845	42,671	33,813	6,041	2,817	22,214	8,764	11,693	2,749	9,974	12,208	6,944	4,917	894	2	3	—	" 58
1846	44,012	34,708	6,453	2,851	24,138	7,991	11,883	2,534	9,855	13,213	7,510	5,081	868	4	—	—	" 60
1847	43,596	34,264	6,405	2,927	25,544	7,425	10,627	2,718	8,952	13,295	8,164	5,767	1,036	—	1	—	almost 65
1848	28,859	22,386	4,211	2,262	16,882	4,404	7,573	1,579	5,786	9,161	5,134	3,513	653	6	1	—	" 64
1849	51,637	39,116	8,706	3,815	30,457	8,467	12,713	2,862	9,194	16,018	9,621	6,617	1,063	5	9	1	64
1850	44,539	33,466	7,053	4,040	25,030	7,509	12,000	2,355	8,766	12,461	7,964	6,092	868	10	22	—	61
1851	57,059	42,203	9,935	4,921	33,444	9,857	13,758	3,338	10,354	16,203	11,296	8,196	1,087	20	41	—	64
1852	27,775	21,195	4,242	2,338	17,782	3,920	6,073	1,468	4,639	8,413	5,967	4,304	564	5	7	—	69

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This summary shows the total number of vaccinations during 20 years to have been 859,880) (1st column.)¡ Among these, 429,864 yielded successful cases, regular in their course, (column 4, a.) Those remaining without result, but re-vaccinated afterwards, successfully, amounted to 43,770, (column 5, a.) So that in all, 473,634 cases of genuine and regular vaccination were produced.

Of those successfully re-vaccinated during 20 years, 545 were attacked with (column 7)

Varicella,	271	Column 7, a.
Varioloid,	241	" 7, b.
Variola,	33	" 7, c.

The year 1833 is strikingly remarkable as being by far the most unfavorable in its protective results. It would have been better to have omitted the first year, and only cited the last 19 years, if I had only wished to produce the proofs of a statement, and not, at the same time, to make the utmost use of the whole of the materials at my command. But I must remember that this universal vaccination, without regard to whether it had been previously done or not, only commenced with the year 1834. A proper estimation of re-vaccination as it now exists in the army, can, in fact, therefore be obtained by taking into account the last 19 years only.

In these 19 years, the number vaccinated upon their entrance into the army was 811,402, (column 1.) The first vaccination was successful with 414,595, (column 4, a.) Those unsuccessful at first, but successfully re-vaccinated, were 42,986, (column 5, a.) The vaccination, therefore, took effect in a regular manner with 457,581. Of those successfully re-vaccinated during 19 years, 421 were attacked in 19 years

With	Varicella,	217.
	Varioloid,	191.
	Variola,	13.

Of these 457,581 soldiers successfully vaccinated during 19 years, 4 have died of variola.

This result is indeed astonishingly favorable, for variolous diseases still exist and appear in all times and all places in our State, notwithstanding that compulsory vaccination and the extinction of prejudice have diminished from year to year the number of those who have avoided vaccination. An immunity from the

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contagion of variolous diseases exists neither in age, sex, race nor constitution. The rate of mortality of the different epidemics, it is true, is very different, sometimes rising to 60 or 70 per cent., sometimes sinking to 15 per cent. of those attacked. The average mortality may be stated as about 30 per cent. The Prussian army, however, represents the male portion of the population of the State in the bloom and manly vigor of their age, dwelling in all parts of the country. They live distributed among the rest of the population, in part sharing the house with the citizen, therefore in the most favorable position for infection, and, in part, crowded together in barracks, therefore in a state best adapted to the further distribution of the disease. It has never failed to contribute its share to the increase of other epidemic diseases, when they have appeared; for instance, to typhus and cholera. With reference to the liability to variolous diseases, I here give the not inconsiderable number of cases in the whole army, without regard as to the result of the vaccination. In the whole army there were attacked with variolous diseases,

A. Year.	B. Attacked	C. Died.	Of the number revaccinated. D. With success.	E. Without success.	F. No result.
1834	619	38	2	6	30
1835	259	5	—	2	3
1836	130	9	?	?	?
1837	94	3	—	—	3
1838	111	7	—	2	5
1839	89	2	—	—	2
1840	74	2	—	—	2
1841	59	3	—	1	2
1842	99	2	—	1	1
1843	167	3	1	2	—
1844	69	3	1	2	—
1845	30	1	—	1?	—
1846	30	1	—	1	—
1847	5	—	—	—	—
1848	22	1	—	1	—
1849	62	1	—	—	1
1850	176	1	—	—	1
1851	246	3	—	2	1
1852	87	1	—	1	—
Total	2428	86	4?	22?	51?
Or, if we distribute the 9 who died in 1836 between the columns E and F					
The total would be	2428	86	4	25	57

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NOTE.—Of these 86 that have died, at least 5 had had natural small pox, and on that account were not vaccinated, (in the early years no statement thereof was made,) while during the same time only 4 died who were successfully re-vaccinated.

There can be no other means of explaining this small mortality from variolous diseases in the army except by re-vaccination, whose action, as the figures in the above columns show, is expressed in a two-fold manner. 1st, that it reduces to a minimum the number of those attacked by the disease, so far as the re-vaccination was successful; and 2d, that it deprives the disease in those who were attacked of its prognosis, otherwise so unfavorable.

These results confirm what has already been shown by experience, viz., that vaccinia exerts its protective effect especially towards variola, and in a much less degree towards varioloid and varicella. It must be borne in mind, however, that whilst the mortality in variola is 30 per cent. and in varioloid 10 to 15 per cent., that during 19 years, out of 2428 cases that occurred in spite of successful re-vaccination, the mortality was only 86; showing, at least, a most decided mitigating influence produced by vaccination upon the course of the varieties of variolous diseases.

One of the most important questions in the thema of vaccination has been at all times, and more especially at present, the duration of the productive power of vaccinia. Periods, the most variable and arbitrarily assumed, have been given as the maximum of its duration. Upon this point, however, the tables thus obtained can give no positive conclusions, since by far the larger part of our army (that is with only the exception of the "*chargirten,*") is completely renewed in three years, at furthest. Positive results can, therefore, only be obtained from these figures with regard to the continuation of the protective power for the space of three years.

The results given in the last column are, however, most striking. It shows an almost uninterruptedly progressive increase from year to year of the protective vaccinia obtained by vaccination, so that the per centage of successful vaccination, out of the total number of vaccinations during 20 years, has increased from 33 per cent. to 69 per cent., or in 19 years, from 39 to

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69 per cent., an annual increase of from 1 4-5th to 1¼ per cent. respectively.

In my opinion there can be but two methods of explaining this phenomenon; either the method of vaccination must have been improved, or the sensitiveness of the present generation to the vaccine virus must have increased. To the first explanation, the following thoughts naturally oppose themselves, viz., that the act of the inoculation itself and the observation of its results, are so extremely simple, that although *two* physicians may form widely different deductions therefrom, yet it is impossible for any *three hundred* physicians to obtain results essentially different from those obtained by any other three hundred. I know further from my own personal observation and practice in our army for the last 10 years, that the mode of vaccination has been for that period precisely the same as it is at this day. The rate of increase, however, in the number of successful results, was the same in those 10 years previous with which I had no personal acquintance, as it was in the time that *has* come under my actual notice; I do not think I risk anything in stating, therefore, that the method of vaccination did not exert any influence upon the results obtained.

This leaves us only the supposition of an increased susceptibility in this generation to the vaccine influence.

Increased susceptibility in re-vaccination will appear to many persons as identical with increased liability to the infection of small pox, and may lead to erroneous conclusions, for it is often considered as certainly established that a successful vaccination was a proof of previous susceptibility to the influence of the variola infection, while, on the contrary, those particularly that have been carefully repeated without success, are looked upon as evidences of a want of susceptibility of the individual to the small pox contagion.

If the above views are correct, the protective results of vaccination in the *whole* army, taken together, would be the same as it was in those where successful results appeared, that is out of the whole number who were vaccinated on entering the army, (811,402 individuals,) the proportionate number, viz., 7⅛ persons, would have died, 4 only having died out of 457,581, successfully re-vaccinated.

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The columns D. and E. of the tables show that out of the total number of persons who were vaccinated, 29 died, 811,402—457,581=353,821 that were vaccinated without success, out of whom 24 died of variolous disease. A positive proof that *successful* re-vaccination affords the only actual, and, for a certain time, *absolute* protection.—*Vierteljahrsschrift für gericht. und öffent. Medecin. Oct.* 1854.

BIBLIOGRAPHICAL NOTICES.

Surgical Reports and Miscellaneous Papers on Medical Subjects. By GEORGE HAYWARD, M.D., President of the Massachusetts Medical Society; Fellow of the American Academy of the Arts and Sciences; late Professor of Surgery in Harvard University, and Consulting Surgeon to the Massachusetts General Hospital. Boston: Phillips, Sampson & Co. 1855. 12mo., pp. 452, including index.

We doubt not that the "Reports" and "Papers" embodied in the above neat and unpretending volume will meet with a general and hearty welcome. Our readers will recognize the most of them as old and valued acquaintances, well known to the profession through the pages of the American Journal of the Medical Sciences, and other sources, in which they first appeared. Their previous reputation would secure to them a favorable reception which the present improved and convenient form will render doubly certain; but the high standing of their veteran and able author as one of the first of the surgeons of New England, clear-headed, learned and accomplished in practice and teaching, must add unusual interest to these mementoes of his long and very active career. He has earned the thanks of his brethren in carefully arranging and extending his various essays so as to bring them permanently within the reach of every one; and we hope that the example which, in common with his former colleague Dr. Bigelow, he has thus presented, will lead to similar efforts on the part of some of his associates, as well as others equally esteemed and distinguished in different parts of our country.

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Dr. Hayward's contributions, as he reminds us, are the results of more than forty years' experience, and are offered in a collected form "from a belief that some of them would be useful from the facts and tables they contain, and in the hope that all might be read with advantage by students and the younger members of the profession." He further very modestly suggests that they might "be occasionally consulted by those somewhat advanced in practice, whose time was too much occupied to allow an examination of more extended works on the subjects of which they treat." The original importance of several of them is materially enhanced, not only by the revision to which all have been subjected, but by the addition of new cases, statistics and other matter, which give them the aspect and freshness of entirely new articles.

We find in the first eighty pages a useful series of clinical reports and considerations on surgery and operations in the Massachusetts General Hospital. Many practical hints of value may be derived from the study of the cases touched upon in these reports, while still more may be gathered from the discussion of certain mooted questions, which are presented here and there with considerable effect. Some of these latter are sufficiently recent and important to justify a special comment were the space allowed us; but we are obliged to pass at once to the next subject of examination. This is presented in a "Report on the Permanent Cure of Reducible Hernia," submitted to the American Medical Association at Richmond, in 1852. The conclusions of this paper may be regarded as in accordance with the views of the great body of the profession on both sides of the Atlantic. They agree so fully with the doctrine which we have repeatedly maintained, that we are tempted to extract them here:

"1. That there is no surgical operation at present known which can be relied on, with confidence, to produce, in all instances, or even in a large proportion of cases, a radical cure of hernia."

"2. That they regard the operation of injection by the subcutaneous method as the safest and the best. This will probably, in some cases, produce a radical cure, and, in many others, will afford great relief."

"3. That compression, when properly employed, is, in the present state of our knowledge, the most likely means of effecting a radical cure in the greatest number of cases." pp. 116—117.

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We have met with so many undoubted and unequivocal cures of hernia, produced by the action of a truss alone, that we are satisfied of the entire truth and force of the third conclusion.

Next we have several chapters in succession occupied with different subjects, some of them interesting to the general reader, and all attractive to the professional student. Among them are the well known "Statistics of Amputations," now brought up to 1850; "Cases of Vesico-Vaginal Fistula," of which eight cases, with the accompanying and concluding remarks, are new, and of recent date; a chapter on anæsthetic agents, in which we rejoice to learn that he continues his preference for sulphuric ether and his positive objection to chloroform, chloric ether and *other* similar mixtures; a chapter on the "Statistics of Consumption;" one on "Legalizing Anatomy;" another on the "*Contagion* of Cholera;" a "Case of Hydrophobia;" a "Case of Paruria Inops;" also chapters on other subjects which we *need not* name, but which we would heartily commend to the perusal of our readers, for their especial gratification as well as *practical* improvement.

It would afford us sincere pleasure, had we room for it, to dwell upon many portions which have struck us as particularly deserving of attention in these instructive essays. We leave them with regret, on account of their varied intrinsic merits; but still more, we confess, because of our personal regard and respect for their worthy author. He is one whose teachings and example we are hardly yet prepared to look upon as among the lights that are destined henceforth to shine only in the past. We earnestly trust that there is yet awaiting him a brighter and busier future in the highest labors of his calling; and that we may all live to enjoy the fruits of his unabated industry in the further record of studies and experience which, at the close of half a century, are still in the vigor of their years.

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A Practical Treatise on the Diseases Peculiar to Women; Illustrated by Cases derived from Hospital and Private Practice. Third American, from the Third London Edition. By SAMUEL ASHWELL, Obstetric Physician and Lecturer to Guy's Hospital, London. Blanchard & Lea.

Dr. Ashwell, in the Preface to his first edition, informs us that for the last twenty years his attention has been particularly directed to the important branch of medical science treated of in this excellent work; during a great part of which period Guy's Hospital, with its extensive lying-in Charity, and a large private practice in female diseases, have afforded him, as he himself candidly admits, "opportunities falling to the lot of few practitioners."

At the same time that he modestly disclaims any exclusive or undue deference on that account, for the opinions expressed and the practice recommended in the work, the author trusts that the conscientious watchfulness with which he has endeavored to use the opportunities and materials so abundantly bestowed on him, will secure for his labors the approval and confidence of his professional contemporaries.

In truth, the ability of this work must command the respect of the whole profession. Its unaffected simplicity, descriptive clearness, and sound practical doctrines, without a tinge of hobbyism, (the rarest virtue in our modern medical literature,) place it, as a practical treatise on female diseases, far in advance of any other with which we are acquainted in the English language.

To a reviewer, watching for an opportunity to display his critical acumen, Dr. Ashwell's perfect knowledge of his subject, backed by his sound discriminating sense and unaffected style, is somewhat baffling. He may differ with his author on some always debateable points which never have been and probably never will be settled, but to find fault would be hypercritical and even presumptuous.

Thus impressed, we shall endeavor, as far as our limited space permits, to give our readers some idea of the merits of his book, although we feel that we cannot, by our necessarily cursory analysis, convey more than a very faint conception of its importance and usefulness.

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Dr. Ashwell arranges the diseases of women in two divisions: in the first he places the functional, and in the second the organic sexual diseases.

The functional diseases treated of are, chlorosis, amenorrhœa, dismenorrhœa, menorrhagia, leucorrhœa, and hysteria with irritable uterus. These subjects of course include the different complications, together with the disorders attendant on the natural cessation of menstruation; each disease and each complication is illustrated by cases, minutely described, together with the detail of treatment and the results; where death occurred, the post-mortem investigations are carefully and clearly given. In addition to all this, it may be mentioned that a useful collection of formulæ of all the remedies employed is included; thus giving to the younger members of the profession what they most require, viz: the minutiæ of the practice as well as the general experience of an able and conscientious physician, who has seen and studied by the bedside what he describes, and practices what he teaches.

It is somewhat trite to repeat the established truth, that a good practitioner cannot be made by books alone, but we are satisfied that all that any one man can do, towards instructing and guiding his less experienced, less gifted, or less fortunate professional brethren in the diagnosis and treatment of female diseases, has been accomplished by Dr. Ashwell in the treatise before us.

Our author's definition of chlorosis is as follows:

"A peculiar affection of the general health, in which debility, languor, and deranged stomachic functions are prominent symptoms; most frequently occurring when puberty is, or ought to be established, although it may exist at any subsequent period; always characterized by anæmia of the system, and a yellowish, dirty green pallor of the surface. When a disease of early youth, almost invariably connected either with entire absence of menstruation, or with a scanty, painful, and irregular performance of the function; and if a disease of later life, in addition to these causes it may have been preceded and produced by menorrhagia or leucorrhœa."

Chlorosis is properly divided into mild or incipient, inveterate or confirmed, and a complicated disease.

The mild form is clearly and graphically described; such a patient, says Dr. A.,

"Is languid, soon fatigued, and therefore inactive; she is not cheerful, but dull and listless; sometimes perverse and sullen, and prone to

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solitude. Her appetite is capricious; it either fails altogether or she craves for unwholesome food. Her complexion is altered; though always pale, it is now much more so; the bowels are constipated; the tongue is of a dirty paste white; the breath is offensive; she suffers from flatulence; the slightest exertion fatigues and induces short breathing; frequent, severe and peculiar headaches; palpitation of the heart and pain in the side are common occurrences; the pulse is quick, weak and compressible, and sometimes fluttering. The catamenia, if not absolutely delayed, have scarcely appeared, the discharge being pale in color and scanty in quantity."

Confirmed or inveterate chlorosis is of course but an aggravation of the same series and conditions, with other violent and alarming sympathetic affections, such as hysteria, with cerebral, pulmonary or abdominal difficulties, so that a careless or uninstructed observer might be blinded to the original affection, and suppose that his business consisted in combating an organic disease of the brain, lungs, liver or heart.

All the complications which the author's opportunities have enabled him to observe in chlorotic patients are described and illustrated by cases.

We give the following interesting case of cerebral complication as a specimen of the thorough and careful manner in which Dr. A. places the practical part of the work before his readers:

"Emily ———, aged 17, a tall, thin girl, of florid complexion and of intelligent appearance, was admitted Feb. 5th, 1836. She has always been weakly, and for the last four or five years, has been subject to chest affections, from which she has been free since the existence of her present malady. Two years ago she had phrenitis, and has since been in imperfect health, being often seized with aggravated fits of hysteria, so that she falls and remains insensible and motionless for hours together. She is now deaf, and has since had otorrhœa, but its presence was attributable to an accidental injury of the meatus externus. She has intense headache, chiefly affecting the occiput. The cephalalgia was unusually severe in December 1835, and soon afterwards her right foot and hand were frequently in agitation. A month subsequently she lost all control over them, but since this time there has been no aggravation of the pain. Ten days ago she was delirious, and remained so for a few hours. Menstruation has been only once regular and natural. Her present symptoms are,—dulness, almost imbecility of intellect; constant and rather acute occipital pain; frequent but not very violent agitation of the right side, with occasional spasms of the left; little or no affection of the face; no difficulty of articulation. Bowels open by purgative medicine; skin soft and moist.

℞. Pulv. scam. c. cal. grs. xv. statim.
℞. Ferri sub-carb. ʒj, quartâ quâque horâ.

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To take half a pint of porter daily, and use the flesh brush.

This treatment was pursued for a fortnight with advantage, and the daily reports exhibit progressive amendment; the agitation is decreased and the pain in the head diminished.

℞. Zinci sulph. grs. ij. ter die. Balneum pluviale omni aurora.

Feb. 22d. The agitation is much less, and she has recovered considerable power of the left hand, but not so much of the leg. Bowels open; tongue clean.

25th. The agitation has somewhat increased, and she complains of pain in the affected arm and leg.

Augeatur dosis zinci. sulph. ad gr. iv. ter die.

She continued to improve until March 11, when the nurse reported that she had a fit during the night, in which she appeared to have lost the power over her limbs, and the legs were somewhat contracted; the hands were placed over the occiput, where she appeared to suffer pain. She is now rather confused; pupils dilated, though obedient to light. There is some involuntary movement principally confined to the left side. Bowels well opened yesterday; pulse small and soft.

Radatur caput lotio frigida constanter applicand: zinci. sulph. gr. iv. ter die.

March 16. Had another fit this morning, but much less severe than before. Pulse quick; pain in the head not increased.

22. Has had no return of the fits, and appears much improved. The involuntary twitchings are comparatively slight. She is more collected and can articulate clearly. Bowels open; pulse quiet; still deaf; her strength is so increased that this morning she was able to walk twelve or fourteen yards.

℞. Infus rosæ. cum quin. sulph. gr. ii. ter die. Pil rhei. comp. gr. x. p. r. n.

She remained in the hospital till April 21, when she was presented quite well. During this time she gradually regained her strength, losing all symptoms of chorea. The general health was confirmed; her appetite returned; the catamenia appeared though scantily, and her countenance assumed its natural aspect. Her intellect is still somewhat impaired, but the head is free from the occipital pain, and there is no symptom of structural change."

This requires no comment. It attests the extreme severity of the cerebral affection, and its symptoms are so precisely identical with those of organic disease as fully to demonstrate the impossibility of making a certain diagnosis, while, at the same time, it teaches us to be careful of our prognosis.

All the organic affections of the womb are given at length, various modes of treatment fully discussed, and all the subjects admirably illustrated by examples. We have not the space that would be required, even to name all these diseases, therefore we shall not do them the injustice of attempting an analysis.

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Occlusion of the uterus, or total absence of an os tincæ, is an accident of so much interest to obstetricians, that we cannot resist the inclination to make some selections from the author's treatise on the subject.

"Happily, entire closure, and such extreme rigidity of the os as to preclude the birth of a child, if help be not afforded, without more or less extensive laceration, are rare. Still two such examples—the one of closure—the other of rigidity—where incision was successfully performed have fallen under my own observation within a short time; and I have already alluded to not a few occurring in the practice of others."

Dr. Ashwell thinks that when the uterus is imperforate, or when the os, though existing, is so rigid as to resist, after hours of strong uterine action, the dilating process, incision is the safest remedy, far preferable, he says, to protracted dilatation of the os by the finger; or, on the principle of non-interference, to leaving the case to the natural efforts.

"It is well known," [says our author,] "that normally, this orifice is sometimes very small; at others, instead of a transverse chink—its most usual form—there is merely a diminutive circular aperture. In either of these conditions of the orifice, complete obliteration may easily be produced by an amount of local inflammation following conception, which would not seriously interfere either with the pregnancy or the health of the individual. It is important, however, to bear in mind, that such closure may not be attended by any other disease of the parts; the adhesion may be firm and complete; but there may be no scirrhous induration, no distinct nodule of hard substance; the neck of the uterus will be forced down by the pains; and the sensation imparted to the finger, on examination during labor, will be quite natural, excepting only that no aperture will be found."

Again, he says:

"It will be urged as extremely improbable that there should be no os uteri; that there is one, perhaps, but that owing to obliquity, it is very high up posteriorly; and that being thus unnaturally situated, twenty-four, thirty-six, or forty-eight hours, or even a longer period, will be required for its development and dilatation."

Dr. Ashwell very justly attributes many of the recorded fatal cases to an unwarranted delay in performing the operation, and truly states, that every hour of urgent uterine action tends to rectify obliquity, if such be the cause of an undiscovered os uteri. If the pains, he says, "are really powerful and protracted, for ten or twelve hours, the os uteri being still undiscovered, it may fairly be assumed that it is wanting."

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The writer, of course, admits that in some cases bleeding and tartar emetic will produce the desired relaxation, but he contends that when we are certain that occlusion exists, and the fact of its existence is sometimes beyond the possibility of doubt, to delay the operation will only bring on exhaustion and add considerably to the chances of an unfavorable result. From the foregoing it must not be supposed that it is advised to incise the lower segment of the womb without great caution and a perfect conviction of its necessity; on the contrary, the writer insists upon careful investigation, and likewise on the propriety of previous consultation; laceration will take place, he says, to a certain extent, but seldom beyond the lower segment of the organ included within the reflection of the vaginal mucous membrane; whereas, if the case be left to nature, violent contractions must lead to rupture, involving, in all probability, the cavity of the peritoneum, a fatal accident, or the suffering and exhausted woman will sink from inflammation and gangrene.

The work, of course, includes a long article on ovarian diseases; limited space obliges us to be brief, but the subject has of late acquired a refreshed interest by the endeavors of certain European surgeons to legitimatize the frightful operation of excising these organs when in a morbid condition. We have neither the time nor the inclination at present to undertake a discussion on this unpleasant subject, but by a few quotations, will merely show our author's opinion and feelings respecting the operation.

Thus, speaking of dropsy, he says:

"If the operation is to come into established practice, of which I have the strongest doubt, it must be confined to examples of the malady where tapping has already been so often employed as to preclude, from experience of similar cases, any idea that it can be dispensed with; and where we are confident that great suffering must lead to early death. Perhaps this may be regarded as too limited a view of the value of extirpation, but it is, I think, the correct one."

He further adds:

"The extirpation, we are assured by the operators themselves, in a fit case, is far from difficult—would it were more so, for then it would not be so readily undertaken. If it required as much surgical knowledge and skill to make these large and brilliant abdominal incisions, as to tie the subclavian artery, or to perform a trying operation of lithotomy, the lives of many women would have been already spared, and fewer would be sacrificed for the future."

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We are glad to find that the opinion of this most respectable authority so perfectly coincides with that of the profession in this country.

Displacement of the uterus, and likewise diseases of the external organs of generation, are treated in the same thorough and satisfactory manner which distinguishes the author's writing.

We must here stop; it has not been our purpose to give an analysis of the very varied contents of the book, which touches more or less fully on everything interesting connected with the subject. This within our scanty limits would be impossible. If the few specimens given shall induce the reader to examine the work for himself, (and as a reference it is invaluable,) we can assure him that he will not regret it.

The Pathology and Treatment of Leucorrhœa. By TYLER SMITH, M.D., &c. Philada., Blanchard & Lea, 1855.

The obscurity and confusion which encumbered the pathology of Leucorrhœa, one of the consequences of which was a very frequent and often unnecessary resort to the use of the speculum by some members of the profession, and its almost entire repudiation by others, induced our author, whose previous researches well fitted him for such a task, to make a thorough microscopical examination of the discharges attending the various diseases of the female sexual organs, as well as of the parts involved in their production. The result of his labors is before us in a work which we can safely commend to the profession as one of sterling value, and which cannot fail to prove both interesting and instructive to every one who desires to understand the true pathology of the various diseases of the womb and its appendages.

The first chapter, after stating the author's reasons for adhering to the term "leucorrhœa," treats of the minute anatomy of the vagina, of the os uteri and the vaginal portion of the os and cervix uteri. The tesselated layer of epithelium, and more particularly the villi beneath the basement membrane, are most accurately described. The very beautiful plates which illustrate the text, for the drawings of which the author expresses his obligations to Dr. Hassall, are of great use in enabling the reader to comprehend his verbal descriptions. The following

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remarks, containing the author's views upon the functions of the villi in the different situations in which they present themselves, are interesting.

"It becomes a question of much interest to decide what are really the functions performed by the villi of the vagina and the os and cervix uteri. In the lower part of the vagina, the papillæ are no doubt sensitive in function, and deserve the term applied to them by Dr. F. Kilian; but in the upper part of the vagina, the mucous surface is, in the healthy condition, possessed of little sensibility either to pleasure or pain; yet the papillæ or villi are very abundant. The villi are present in very great abundance upon the os uteri and the external portion of the cervix; though the os uteri is, in the majority of cases, insensible to the touch. It is only when the os or cervix uteri is distended by instruments, or when the cervical canal is inflamed or constricted, that pain is caused in ordinary cases. The villi are largest and more highly developed within the os uteri, where sensation is more blunted than in any part of the vagina or os uteri. For these reasons, I am inclined to believe that the villi of the os and cervix uteri, particularly the villi of the cervical canal, are little concerned in sensation. From the liberal supply of blood possessed by the villi, I suspect they are concerned in the secretion of the fluid plasma which the external portion of the os and cervix and the upper part of the vagina pour out, and which forms the vehicle in which the epithelial *débris* is suspended; or they may be intended for the formation of the thick layer of epithelium covering these parts, and which is in constant process of renewal and disintegration."

The second chapter treats of the glandular structures of the canal of the cervix uteri. Great importance is attached by the author to the follicular condition of the canal which, from the peculiar disposal of its mucous membrane, affords a very large extent of glandular surface for the purposes of secretion. "The villi found in the upper portion of the cervix are covered by dentated epithelium, just as is the case with the villi of the lowest part of the cervix." The epithelium of the os uteri and external portion of the cervix is, on the contrary, like that of the vagina, constantly squamous; the transition from squamous to dentated epithelium, it is stated, occurs just at the margin of the os uteri.

In the third chapter the healthy secretions of the vagina and of the os and cervix uteri are thoroughly described. The mucus of the ostium vaginæ, secreted by the glands of Duverney, like all the other vaginal secretions, are acid in their reaction. During sexual excitement a profuse emission of this fluid takes place in some women. In the absence of excitement the secretion is in-

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considerable. The importance of these glands upon the production of leucorrhœa, has, Dr. Smith thinks, been much over-estimated.

The vaginal mucus is a milky fluid, secreted in quantities sufficient only to lubricate the mucous surface; after remaining upon the vaginal surface a short time it becomes curdled, owing to its acid nature. Spermatozoa preserve their vitality for some time in this normal acid mucus, but are soon destroyed when the acid is in excess from any cause. The secretion from the labia uteri, on the contrary, is always alkaline. These different chemical conditions are considered to be of great importance in explaining many circumstances connected with the discharges in leucorrhœa.

In the unimpregnated state, the canal of the cervix is full of its peculiar secretion; this is washed away, at every period, by the menstrual fluid, to form again when the catamenia have ceased. It is less thick and viscid when first secreted, than it afterwards becomes. The mucous follicles become comparatively inactive after they have thrown off a sufficient quantity of mucus to fill the canal, until the next menstrual flow removes it, when they again become active. "The function of the cervix is, therefore, in a certain sense, like that of the fundus, periodical;" and this periodicity is seen in the diseased conditions of the cervix and its secretions. The mucus secreted consists of mucus corpuscles entangled in a very tenacious transparent plasma. Its use is two-fold; it defends the cavity of the uterus from external agencies, and affords a medium for the passage of the spermatozoa into the uterine cavity.

During pregnancy the plug of viscid mucus continues until the commencement of labor. The chief changes occurring in it are due to the alterations taking place in the cervix; it is firmer than the mucus filling the cervix in the unimpregnated state, particularly at its lowest part, where it is opaque and white. In the upper part of the cervix it is clear and transparent, and of an alkaline reaction. The author thinks that the opaque and white mucous secretion rarely exists except during pregnancy, and gives several cases where its presence was of service in confirming an otherwise doubtful diagnosis. During lactation there is a marked tendency to increased secretion of mucus from the glands of the

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cervical canal, which sometimes lays the foundation of chronic leucorrhœa.

The fourth chapter contains a full description of the two principal forms of leucorrhœa; the mucous variety, consisting chiefly of mucus-corpuscles and plasma, and secreted by the follicles of the cervical canal; and the epithelial variety, secreted by the vaginal portion of the os and cervix, and consisting of scaly epithelium and its debris. Our space not allowing us to make such extracts from this chapter as we could wish, we must refer our readers to the work itself for information upon the subject.

The fifth chapter on the sequelæ of leucorrhœa is an exceedingly interesting one. The author believes that in the majority of cases in which disease of the os and cervix is present, cervical leucorrhœa is the essential part of the disorder, and that the diseased conditions of the lower segment of the uterus are frequently secondary affections, the result of the augmented secretion. "Every thing," he remarks "has been made to bend to the hypothesis which sets forth inflammation as the keystone of uterine disorder. Laborious disquisitions have been entered into respecting the vascularity of the os and cervix, the existence or non-existence of a mucous membrane in this situation, and the absence or presence of cellular tissue in the substance of the cervix uteri, as conditions which have been supposed necessary to the establishment of the theory of inflammation. I believe the truth, however, to be, that this part of the generative system is the seat of frequent disorder, chiefly from the circumstance that it is the boundary at which cutaneous tissue ends and mucous tissue begins. The vagina must be considered as an internal prolongation of the skin, and it is only at the labia uteri that the true mucous membrane really commences."

The remaining chapters of the work discuss the relations of leucorrhœa to secondary syphilis; to gonorrhœa in the female; urethritis in the male; to the ophthalmia of new-born infants; to disorders of the function of menstruation, and to sterility and abortion. A chapter upon the constitutional and local causes of leucorrhœa, followed by one upon its treatment, completes the work.

We are aware that Dr. Smith's work deserves a much longer

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and more elaborate notice than our limits have obliged us to give of it. Even the inadequate sketch we have attempted, however, must show what an amount of light his researches have thrown upon the important and much-vexed subject of leucorrhœa. We regard his book as one of the most excellent that has been presented for some time to the medical public.

The publishers have issued the work in most praiseworthy style, the paper, print and plates, which latter are quite numerous, being all of them unexceptionable.

Observations on Wounds of the Heart, and their relations to Forensic Medicine. By SAMUEL PURPLE, M.D., &c. New York.

On the Chemical Analysis of the Tennessee Collection of Urinary Calculi. By E. B. HASKINS, M.D. Clarksville.

We can heartily commend both of the above pamphlets to our readers' attention as papers of real and permanent value. Dr. Purple's observations show, contrary to the general opinion held upon the subject, that even severe wounds of the heart are not necessarily fatal, several instances being related where the recipients of such wounds lived for months, and two where they lived for years afterwards. A table of 42 cases, in which the nature of the injury, the primary symptoms and progress, the result and post-mortem appearance, are all recorded, affords the author an opportunity of settling many important questions regarding these wounds. Sudden loss of blood, compression of the heart from accumulation of blood in the pericardium, concussion or shock of the organ and inflammation, are the principal causes of death in these cases. The symptoms vary very little in their character. "On the receipt of injury we have generally hæmorrhage, weakness, syncope, great paleness, great anxiety and oppression, cold sweat, vomiting, with sooner or later, not unfrequently, complete collapse. The breathing is short and gasping, the pulse feeble and intermittent, the heart's action, scarcely, if at all, perceptible. In the course of from one to eight hours, signs of reaction set in; not unfrequently after vomiting the dyspnœa and cardiac oppression are in a measure relieved; then palpitations not unfrequently arise,

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with a peculiar trembling of the organ, with irregular pulse." The diagnosis of such wounds, however, is often illusive. So uncertain is it deemed by the author, that no case of reputed recovery is introduced into his table, where the rational symptoms were alone relied upon.

As regards the treatment, there being less to be feared from the collapse than from the subsequent reaction and fever, a free resort to stimulants should be avoided. To promote the formation of a clot in the wound, adhesive plaster and bandages should be applied to the external aperture, and these should only be removed where there "is reason to believe that the dyspnœa and sense of suffocation are greatly increased by restraining the external hæmorrhage." When reaction sets in, we are to depend upon bleeding and strict antiphlogostic treatment to subdue it. To diminish the heart's action, the veratrum viride is strongly recommended; a moderate mercurialization is also advised as a safeguard against the inflammatory complications which so frequently arise. The necessity of perfect, absolute rest, and for weeks, is forcibly inculcated by reference to cases in which it was neglected or could not be enforced.

The author's remarks upon the prognosis of these wounds and their forensic relations are well considered and judicious; the paper closes with a series of "conclusions," deductions from the facts related. We consider Dr. Purple's monograph a very excellent one, and cheerfully commend it to general attention.

Dr. Haskins' report embraces the results of the chemical analysis of 180 urinary calculi, all but four of which were from human subjects. Contrary to the statements of British and Continental writers, who, all of them, speak of the uric acid calculus as the most common variety, Dr. H. found it extremely rare, while urates were quite common. It would be interesting to know, as the author remarks, to what extent this peculiarity in the urinary deposits exists in the United States, and whether it is confined to the Mississippi valley? We commend the subject to the attention of northern chemists. From facts recorded by him, Dr. H. believes that few calculi owe their origin to constitutional causes, the great majority of them arising from local ones. "It can hardly be doubted," he says, "that the little

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masses of animal matter, in the form of epithelium debris, fibrinous and perhaps albuminous exudation, and drops of blood, acted as the potential causes of the formation of the concretion in which they were found." The urine may not have been abnormal in its composition or sedimentous in any of these cases for these bodies to become nuclei of deposit, as it is well known that any foreign body in the urinary passages speedily provokes a precipitation, even from healthy urine. The paper concludes as follows: "I wish only to show by the foregoing remarks, that without a nucleus of foreign matter, *no* state of the urine (with the few exceptions mentioned) will likely give origin to a calculus, and that where there is such a nucleus, *any* state of the urine may form one. And, that the facts above recorded point to the kidney and the agents that determine its local pathology, rather than to the urine and those agents that modify its chemical nature, as the chief sources of urinary calculi."

For the industry and perseverance with which he has pursued his investigations, which must have been exceedingly laborious, Dr. Haskins deserves great credit. In fact, his report cannot fail to be regarded, wherever it is read, as a very valuable contribution to science. It was originally published in the Transactions of the Tennessee Medical Society.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

This Society held its annual meeting at Hollidaysburg, on Wednesday and Thursday, May 30 and 31.

The meeting was called to order at 10 o'clock, May 30, by the President, Dr. Gemmill.

Drs. G. Emerson, J. A. Landis, and J. McCulloch, were appointed a committee to examine and report on the credentials of members.

This committee reported the names of those entitled to seats.

On motion of Dr. A. S. Kennedy, Dr. R. P. Thomas, of Philadelphia, was appointed Treasurer, *pro tempore*, in the absence of the Treasurer, Dr. West.

The Committee on Credentials report that since the last session two new societies had been organized, viz: one for Franklin, and one for Washington County; the constitutions and by-laws of both of which had been approved by the Censors of their respective Districts.

On motion of Dr. H. Carpenter, the reading of the minutes of the last session of the Society was dispensed with.

The session was formally opened by the President, Dr. Gemmill, with a brief but pertinent address on the importance of the complete and

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systematic organization of the medical profession throughout the State, and the leading objects to be gained by such organization.

On motion of Dr. F. G. Smith, the thanks of the Society were tendered to Dr. Gemmill for his able and eloquent address, and that he be requested to furnish a copy for insertion in the printed *Transactions*.

On motion of Dr. Morton, it was

Resolved, that the sessions of the Society be from nine to twelve o'clock A. M., and from two to five P. M.

On motion of Dr. Ross, it was

Resolved, That the reporters of the public press have every facility afforded them for taking minutes of the proceedings.

On motion of Dr. Thomas, it was

Resolved, That a Committee of Nomination, to consist of one from each County represented, selected by its delegates in attendance, be appointed; and that said committee be instructed to designate the place of meeting of this Society in 1856.

The report of the *Chester County Medical Society* was presented and read, and, on motion, referred to the Committee of Publication. It being understood that the committee by whom the report was drawn up have the privilege of making such corrections therein as they may deem proper.

AFTERNOON SESSION, *May* 30, 1855.

The Minutes of the morning session were read and approved.

The Committee of Publication presented their report, as follows:—

The Committee of Publication beg leave to report that they have had printed *seven hundred and fifty* copies of the *Transactions* of the session of 1854, at an expense of $316.45.

Copies were transmitted to the several County Societies, in proportion, as far as it could be effected, to their respective ratio of representation.

The Treasurer, Dr. F. West, presented his report, showing a balance in the Treasury of $32.

On motion of Dr. Condie, it was

Resolved, That the account of the Treasurer, with the vouchers accompanying the same, be referred to an auditing committee, and Drs. S. Lewis, S. A. Ogier, and J. H. Seltzer, were appointed the committee.

The following gentlemen were announced as constituting the Nominating Committee, agreeably to the resolution adopted at the morning session:—

Berks—Dr. J. H. Seltzer.
Blair—Dr. J. A. Landis.
Cambria—Dr. W. A. Smith.
Chester—Dr. S. A. Ogier.
Delaware—Dr. C. J. Morton.
Huntingdon—Dr. H. Orlady.
Lancaster—Dr. J. H. Ehler.
Mifflin—Dr. Bowers.
Montgomery—Dr. F. B. Poley.

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Philadelphia—Dr. S. L. Hollingsworth.
Schuylkill—Dr. J. S. Carpenter.
Washington—Dr. J. Wishart.

The report of the *Huntingdon County Medical Society* was presented and read, and, on motion, referred to the Committee of Publication.

The report of the *Schuylkill County Medical Society* was presented and read, and, on motion, referred to the Committee of Publication.

On motion of Dr. Yardley, it was

Resolved, that a committee be appointed to examine the minutes of last session, and report any unfinished business that may appear thereon requiring action at the present session.

Drs. Yardley, Shrack, and Christie were appointed the committee.

A communication was received from the Reading-Room Association, of Hollidaysburg, granting the use of their reading-room to the Delegates to the Pennsylvania State Society during their sojourn in the borough.

On motion of Dr. Condie, the privilege thus granted was very gratefully received, and the thanks of the Society were directed to be presented to the association for their very polite and liberal action in the premises.

The report of the *Medical Society of the City of Reading and County of Berks* was presented and read, and, on motion, referred to the Committee of Publication.

On motion of Dr. Carpenter, of Lancaster, the resolutions in reference to delinquent members appended to said report, were laid upon the table.

The Committee on Unfinished Business in the minutes of last session, presented the following report:—

The Committee on Unfinished Business report that they have examined the minutes of last years' proceedings, and find the following committees were continued to report at this session, namely,

1st. Committee on Adulteration of Drugs. (See printed *Transactions*, vol. iv. p. 10.)

2d. Committee on Vaccination and the Preservation of Vaccine Virus. (See printed *Transactions*, vol. iv. p. 10.)

They further find that reports are due from the following committees appointed at the last session, namely,

1st. Committee on Blanks for Reports from County Societies. (See printed *Transactions*, vol. iv. p. 13.)

2d. Committee on Resolutions submitted by the Chester County Medical Society, through Dr. Parrish. (See printed *Transactions*, vol. iv. p. 17.)

Signed, THOS. H. YARDLEY,
JOHN SHRACK,
R. W. CHRISTIE.

On motion of Dr. Condie, it was

Resolved, That the several items of business referred to in said report, be now taken up *seriatim*.

It was stated, on behalf of the Chairman of the Committee on Adul-

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teration of Drugs, that he had prepared a report on the subject which would, no doubt, be presented in the course of the present session.

On motion, the committee was continued.

Dr. Carpenter, of Lancaster, stated that he had been requested by Dr. Parry, the Chairman of the Committee on Vaccination, &c., to state that, inasmuch as no few facts had reached the committee in reference to the subject committed to them, they had not thought it worth while to prepare a report from the materials they had been enabled to collect, and begged to be discharged from the further consideration of the subject.

Dr. Condie remarked, that, inasmuch as he was convinced that a digest of the facts at present known in reference to the preservative powers of vaccination, and to the preservation of vaccine virus in a state best adapted to produce effectually its influence upon the system of those in whom it is inserted, and a comparison of the experience of the medical profession in different portions of Europe on the several points involved in these important questions, as given in the reports of several medical associations abroad, would be acceptable to the great body of the profession throughout our State, and that it would be calculated also to remove some erroneous views and practices still entertained, and pursued in relation to vaccination, and, at the same time, to promote the extension of vaccination among the community at large, by rendering its protective powers more uniform and certain; he therefore, moved that the committee be continued, with instructions to report at the next session of the Society. Which resolution was unanimously adopted.

Dr. Cassidy asked leave to withdraw from the committee, which request was not granted.

The Chairman of the Committee on Blanks for Reports of County Societies presented his report, which was laid upon the table for the present.

The Chairman of the Committee on Resolutions, presented by the Chester County Medical Society, not being present, the Committee was, on motion, continued with instructions to report at the next session.

The committee appointed to audit the Treasurer's accounts, reported as follows:—

The committee appointed to audit the Treasurer's account, beg leave to report that they have attended to that duty, and find the said accounts correct. A balance remains in his hands of thirty-two dollars ($32.) There is a balance due by the Society for printing the *Transactions* for 1854, amounting to eighty-seven dollars thirty-two cents ($87.32.) Assessments are still due from the societies of Erie, Lycoming. Mercer, and York, for 1853 and 1854; and from Alleghany, Bradford, Cambria, Lebanon, Perry, and Susquehanna, for 1854, amounting in all to one hundred and fifty-seven dollars ($157.)

Signed,

SAMUEL LEWIS,
J. H. SELTZER,
SEPT. A. OGIER.

The following amendment to the Constitution was presented by Dr. Yardley: To insert in Sect. 2, Article III., after the word "societies," in the second line, the words "provided, however, that the officers of

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the society, and the chairmen of all committees who have reports to present, shall be delegates *ex-officio.*" So that the section shall read:

"SECT. 2. The delegates shall receive their appointments from the county societies; provided, however, that the officers of the societies, and the chairmen of all committees who have reports to present, shall be delegates *ex-officio;* and to them shall be intrusted the management of the business and affairs of the Society."

The said amendment was unanimously adopted.

On motion of Dr. Kennedy, the following resolution was adopted:—

Resolved, That the Corresponding Secretary be, and he is hereby instructed to address a circular to the prominent physicians in those portions of the State in which no county medical societies exist, urging upon them the importance of organizing such societies without delay.

The report of the Committee on Forms of Reports for County Societies was presented and approved.

The resolution appended to said report was adopted, namely,

"*Resolved,* That the Committee on Forms for County Reports be, and they are hereby instructed to have printed a sufficient number of the forms as reported, and to transmit the same to the secretaries of the county societies, with the request that returns be made at the next session of the State Society in accordance therewith."

Dr. Morton offered the following preamble and resolution:—

Whereas, The editors of the *Delaware County Republican, Blair County Whig, Raftsman's Journal,* and *Olive Branch,* have, with a spirit of genuine philanthropy, constantly refused to insert, in their journals, the advertisements of pátent or quack nostrums, and

Whereas, They have been laboring with a faithful and unapplauded zeal, to enlighten the public mind as to their injurious tendencies, thereby enabling the community to detect and discard the ignorant and illiterate pretender, who has too generally been successful, with the aid of a well-paid press, to foist upon the ignorant and credulous his vile drugs; thus jeopardizing the health and lives of the people, both by their indiscriminate use and by contravening suitable and efficient medication: Therefore, as an evidence of our appreciation of a course so laudable and self-sacrificing, the Medical Society of the State of Pennsylvania, do

Resolve, That the members of the County Medical Societies be requested to extend to them, as well as to their families while under their charge, the gratuitous services of the medical profession; and they further

Resolve, That the County Societies be requested to append to their annual reports the names of all editors, and of their respective journals, who have constantly refused to insert the advertisements of empirical nostrums, and that the Committee of Publication be hereby authorized to furnish them annually with a copy of the *Transactions* of the Society.

On motion of Dr. Hartshorne, the said preamble and resolutions were referred to a committee of three, to report to-morrow morning.

Committee—Drs. Hartshorne, Morton, and Orlady.

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The Committee of Nominations presented a report, which, on motion of Drs. Condie, and H. Carpenter, was referred back to the Committee, with instruction that it is the sense of this Society that, agreeably to the true meaning of the Constitution, no one can be placed on nomination for the offices of President, Vice-Presidents, Secretaries, Treasurer, or Delegates to the American Medical Association excepting Delegates who are in actual attendance at the sessions of the Society.

[The Report of the Committee of Nominations was referred back, to them, as it contained the names of three gentlemen who were deemed constitutionally ineligible to office, from the circumstance that they were either not delegates, or being delegates, were absent from the meeting. One of the gentlemen referred to was not a delegate. One had been elected a delegate, but had resigned, and one was a delegate, who, though not present when the report was read, took his seat before the final action of the Society upon the matter. In the discussion which followed the reading of the report, it was argued that if the precedent of electing persons to office who were not delegates, or who, if delegates, were not present, were adopted, it would prove injurious if not fatal, to the best interests of the Society. On those grounds, and on that of unconstitutionality, the Committee was ordered to replace the objectionable names by others of delegates in attendance. We do not consider that the Committee is much to be blamed in the matter, however, as their action was only in accordance with that of every previous Committee of Nominations since the organization of the Society, as the following statement amply shows:

In 1849, Dr. Isaac Hays, not a delegate, was elected Corresponding Secretary.
" " Dr. Geo. B. Kerfoot, not a delegate, was elected Recording Secretary.
" " Dr. Thos. Wood, not a delegate, was elected a delegate to the American Medical Association.
" 1850, Dr. J. T. Allen, not a delegate, was elected a Vice President.
" " Dr. P. F. Nagle, not present, was elected a delegate to the American Medical Association.
" 1851, Dr. Geo. Fox, a delegate, but not present, was elected Treasurer.
" " Dr. Traill Green, not a delegate, was elected a delegate to the American Medical Association.
" " Dr. J. L. Foulke, not a delegate, was elected a delegate to the American Medical Association.
" 1852, Dr. Joseph Gibbons, a delegate, but not present, was elected Rec. Sec.
" " Dr. F. S. Burrowes, " " " " a delegate to the American Medical Association.
" " Dr. R. E. James, not a delegate, was elected a delegate to the A. M. Asso.
" " Dr. Jas. R. McCoy, " " " " "
" 1853, Dr. Traill Green, " " " " "
" " Dr. Edw. Wallace, " " " " "
" " Dr. John S. Ross, " " " " "
" " Dr. John S. Irvine, " " " " "
" 1854, Dr. Jacob M. Gemmill, a delegate, but not present, was elected Presid't.
" " Dr. J. H. Dorsey, a delegate, but not present, was elected a delegate to the American Medical Association.
" " Dr. Joseph Henderson, not a delegate, was elected a delegate to the American Medical Association.

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No happier illustration than the above can be given of the sharpening influence of the mountain air upon the intellect; it is clear that the constitution was never understood until the meeting at Hollidaysburg.—Ed.]

The report of the *Philadelphia County Medical Society* was presented and read, and, on motion, it was referred to the Committee of Publication.

The report of the *Lancaster County Medical Society* was presented and read, and, on motion, it was referred to the Committee of Publication.

Morning Session, *May* 31, 1855.

The minutes of yesterday afternoon's session were read and approved.

The Committee on preamble and resolutions of Dr. Morton, presented the following report:—

The Committee appointed to consider the preamble and resolutions offered by Dr. C. J. Morton, in regard to the action of certain editors of the public press, in declining the insertion of quack advertisements, report that they are prepared to recommend the adoption of the preamble, with the alteration of a few words only, and that they would respectfully suggest the substitution, instead of the resolutions in question, of a single resolution, expressive of the sentiment of the Society, so that the preamble and resolution, as thus modified, may, together, read as follows:—

Whereas, The editors of the *Delaware County Republican*, *Blair County Whig*, and those of some other papers in this State, have, with a spirit of genuine philanthropy, and at considerable sacrifice, constantly refused to insert, in their journals, the advertisements of patent or quack nostrums, and

Whereas, They have zealously labored to enlighten the public mind on the injurious tendency of such impositions, and, by withholding from them the influence of the press, to lessen the power of pretenders to jeopardize the health and lives of the ignorant and credulous, through the indiscriminate use of their compounds and the contravention by such use of suitable and efficient medication; therefore,

Resolved, That this Society views with high approbation and satisfaction the course of the editors and publishers alluded to, as furnishing an example well worthy to be followed by all who conduct the public press, and that we recommend to those members of the profession who reside within the vicinity of such journals, to afford them their patronage, and to testify, in such mode as their own sense of propriety and courtesy may dictate, their opinion of the obligation due from us to those who thus sustain the cause of legitimate medicine.

Signed, Henry Hartshorne,
Chas. J. Morton,
H. Orlady.

On motion of Dr. Carpenter, of Schuylkill, the report was adopted.

Dr. Carpenter, of Schuylkill, offered the following resolution:—

Resolved, That the members of this Society; and the profession generally, be strongly advised to use their influence with apothecaries and

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druggists to induce them to discontinue the purchase and sale of patent and quack medicines. And that the profession be recommended to furnish their patronage to those only who comply in this respect.

Dr. Neill moved to amend by adding after "quack medicines" the words "and patented instruments."

The proposed amendment gave rise to considerable discussion. Dr. Hartshorne moved to lay the whole subject upon the table, which was not agreed to. Finally, on motion of Dr. Biddle, the whole subject was referred to a committee of three—Drs. Condie of Philadelphia, Carpenter of Schuylkill, and Ogier of Chester—with instructions to report at the next session of the Society.

The following report was presented:—

The special committee, to whom were referred certain resolutions from the Berks County Medical Society, on the subject of the adulteration of drugs manufactured in the United States, have the honor to submit the following report:—

That, in their opinion, the suggestions of the Berks County Medical Society are worthy the consideration and endorsement of the State Medical Society. The committee believe that the appointment of an *analytical commission*, to investigate the quality of drugs manufactured in the United States, under the sanction of the State Medical Society, might be productive of eminent benefit.

They recommend, therefore, the following resolution:—

Resolved, That an analytical commission of three members be appointed by the State Medical Society, to investigate the quality of drugs manufactured in the United States. That this commission shall report within two years to the Society, and that the necessary expenses of said investigation shall be paid by the Society.

Signed, J. B. Biddle,
J. Carson.

The report was adopted, the resolution thereunto appended adopted, and Drs. Biddle, Carson, and Lewis appointed the commission thereby created.

Dr. Thomas offered the following preamble and resolution, which were unanimously adopted.

Whereas, Section 1, of Article IV. of the Constitution, provides for the election of five Censors for each of the six censorial districts, and Sects. 6 and 7 of Art. V. constitute the Censors of each district a court of final jurisdiction in cases of appeal from the decisions of county societies; and, whereas, in the present organization of this Society it is impossible to make appointments for each of the six districts, therefore,

Resolved, That the Censors elected conjointly for the first and second districts, for the third and fourth districts, and for the fifth and sixth districts, shall have full and complete jurisdiction, under the Constitution, in all cases arising, irrespectively, in the first and second, in the third and fourth, and in the fifth and sixth districts.

The report of the *Blair County Medical Society* was presented and read, and, on motion, referred to the Committee of Publication.

The report of the *Delaware County Medical Society* was presented and read, and, on motion, referred to the Committee of Publication.

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Lists of the officers and members of Alleghany, Washington, and Franklin County Medical Societies were presented.

On motion of Dr. Kennedy, it was

Resolved, That the Recording Secretaries be instructed to prepare a digested index to the Reports of the County Societies for the last five years, for insertion in the forthcoming volume of *Transactions*.

On motion of Dr. Biddle, it was

Resolved, That a Special committee be appointed to report a plan for effecting an extension of the organization into medical societies of the regular members of the profession throughout the State; and that said committee be requested to take, forthwith, such measures as they may deem proper to effect such organization.

Committee—Drs. Gemmil, Biddle, and Wythes.

On motion of Dr. Condie, a committee, consisting of Drs. Condie and Saltzer, was appointed to draw up and present, at the next session of this Society, resolutions expressive of the feelings of its members on the loss they have sustained in the death of their late esteemed member and ex-President, Dr. John P. Heister, of Berks Co., and of their desire to commemorate his worth as a man and his talents and skill as a physician.

On motion of Dr. Henry Carpenter, a committee, consisting of Drs. H. Carpenter, and J. M. Gemmill, was appointed to present at the next session, resolutions expressive of the feelings of this Society on the loss they have sustained in the death of their late esteemed associate, Dr. C. O. Richards, of Lancaster.

On motion of Dr. Cassidy, the same committee were instructed to present, at the next session, resolutions of similar import in reference to the death of Dr. A. S. Baer, of Lancaster.

The amended report of the Committee of Nominations being read, on motion of Dr. Condie, it was

Resolved, That the officers therein named be, and they are hereby declared to be, the officers of this Society for the ensuing year.

President.—James S. Carpenter, of Schuylkill Co.

Vice-Presidents.—J. Wishart, of Washington County; P. Cassidy, of Lancaster do; G. Emerson, of Philadelphia do; J. Shrack, of Montgomery do.

Recording Secretaries.—H. Carpenter, of Lancaster County; A. L. Kennedy, of Philadelphia do.

Corresponding Secretary.—T. H. Yardley, of Philadelphia.

Treasurer.—R. P. Thomas, of Philadelphia.

Censors, First and Second Districts.—J. B. Biddle, Philadelphia County, J. L. Atlee, Sen., Lancaster do.; W. Worthington, Chester do.; Hiram Corson, Montgomery, do.; Chas. Martin, Lebanon, do.; R. E. James, Northampton do.; G. F. Horton, Bradford do.; Ed. Wallace, Berks do.

Third and Fourth Districts.—Jos. A. Landis, Blair County; J. B. Luden, Huntingdon do.; Thos. Wood, Lycoming do.; Jos. Henderson, Mifflin do.; J. H. Case, Perry do.

Fifth and Sixth District.—Jno. Wishart, of Washington County;

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Addison, Pittsburg; J. P. Gazzam, Alleghany do.; J. T. Ray, Mercer do.; C. F. Perkins, Erie do.

Delegates to American Medical Association.—R. W. Christy, Blair County; J. H. Seltzer, Berks do.; F. B. Poley, Montgomery do.; C. J. Morton, Delaware do.; J. M. Gemmill, Huntingdon do.; Chas. Bower, Mifflin do.; John Wishart, Washington do.; J. S. Carpenter, Schuylkill do.; S. A. Ogier, Chester do.; A. Sheller, Lancaster do.; H. Orlady, Huntingdon do.

Additional Members of the Committee of Publication.—F. G. Smith, S. Lewis, T. Hewson Bache.

Place of meeting for the session of 1856, City of Philadelphia, on the last Wednesday in May, at 11 o'clock A. M.

On motion of Dr. Morton, it was

Resolved, That the President elect be requested to deliver an address at the opening of the next session.

On motion of Dr. Thomas, the thanks of the Society were tendered to Dr. Gemmill for the able, dignified, and courteous manner in which he has presided over its deliberations during its present session.

On motion of Dr. Morton, the thanks of the Society were tendered to its other officers for the able and efficient manner in which they have discharged their respective duties.

On motion of Dr. Thomas, the thanks of the Society were directed to be presented to the Commissioners of Blair County, for the use of the County Court House for its present session.

On motion of Dr. Biddle, the thanks of the Society were directed to be presented to the Board of Directors of the Pennsylvania Railroad Company, for the facilities afforded by them in the conveyance of the Delegates to the present session.

On motion of Dr. H. Carpenter, the thanks of the Society were tendered to the members of the profession of Blair County, for the courtesies extended by them to the Delegates in attendance at its present session.

Adjourned.

D. Francis Condie,
Henry Carpenter,
Secretaries.

THE MEDICAL EXAMINER.

PHILADELPHIA, JULY, 1855.

PHILADELPHIA HOSPITAL, BLOCKLEY.

We learn, with much satisfaction, that the Board of Guardians of the Poor, of Philadelphia, have lately reorganized the Hospital Department of the Alms House, with a view to Clinical Instruction. A Medical Board has been appointed, consisting of "four surgeons and lecturers,

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on clinical surgery, four physicians and lecturers on clinical medicine and three accoucheurs and lecturers on clinical midwifery," and the following gentlemen have been elected to these posts :—

Surgeons—Drs. JOHN NEILL,
H. H. SMITH,
R. P. THOMAS,
D. H. AGNEW.

Physicians—Drs. JOHN B. BIDDLE,
J. L. LUDLOW,
JOSEPH CARSON,
H. HARTSHORNE.

Accoucheurs—Drs. WILSON JEWELL,
CASPAR MORRIS,
R. A. F. PENROSE.

The Philadelphia Alms House Hospital offers unequalled facilities for clinical instruction. Its inmates number between two and three thousand, and furnish the clinical wards with a material which in variety and interest is certainly unsurpassed in this country. The lecture room of the Hospital is spacious and commodious; and the short distance between it and the different medical schools, is now rapidly and conveniently travelled by rail-road cars.

We feel an especial gratification in these increased facilities which are thus opened for clinical instruction in Philadelphia, in the fact that they remove the only apology for those miserable substitutes for hospital instruction, the college clinics. Here, in Philadelphia at least, with the opportunities that are now within the reach of students, at the Pennsylvania Hospital and the Philadelphia Hospital, for the investigation of disease and pathology, there can be no longer any plea for diverting the medical classes from the only legitimate field for a practical knowledge of their profession.

MEDICAL NEWS.

Dr. L. S. Joynes has been appointed to the chair of Medical Jurisprudence and Physiology, in the Virginia Medical College, vacated by the resignation of Dr. Brown-Séquard. Dr. A. E. Peticolas, has been elected to the chair of Anatomy, in the same Institution.

The Stethoscope having been sold by the Virginia State Medical Society, is now edited by Drs. Goodridge A. Wilson and Richmond A. Lewis.

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Messrs. Parry & M'Millan will publish, in the course of a few days, a duodecimo volume, upon the "Mineral and Thermal Springs of the United States and Canada," by Dr. John Bell, of this city. It will be noticed in our next number.

—

The profession in Buffalo, learning that Dr. Austin Flint was about to sever his long connection with the Buffalo Medical Journal, and desirous of presenting him with some testimonial of their appreciation of his high character and endowments, have recently had a handsome engraving taken of him, for a copy of which we are indebted to the politeness of Dr. Sandford B. Hunt. As an evidence of the respect and admiration entertained for him by his professional associates, this farewell tribute must have been especially gratifying to Dr. Flint.

Dr. Hunt is now sole editor of the Journal.

—

In our account of the proceedings of the A. M. Association, Dr. Frank H. Hamilton, of New York, is made to say that it is impossible to unite a fractured femur without shortening. The following extract from the Buffalo Medical Journal, reports his language correctly:—

"Where, then, must we look for an answer to the question, Why are these prosecutions against surgeons so frequent? Let the gentlemen be assured, the causes are to be found in the *very imperfections of our art, and in our own unwillingness to admit these imperfections.* Surgeons have claimed too much, and it cannot certainly be expected that the world will demand of them less than they claim for themselves. Again and again surgeons have said that a fracture of femur might be generally made to unite without any shortening, while the fact is not so. Malgaigne, who is eminently an honest man, says, to make this bone unite in an adult person, where the fracture is sufficiently oblique to prevent the ends from supporting each other, is 'simply impossible,' (*simplement impossible.*)

"Let the profession be wiser in future, and acknowledge that they cannot perform impossibilities."

—

Extracts from the Proceedings of the Ohio State Medical Society, at its meeting in Zanesville, June, 1855.

AFTERNOON SESSION, JUNE 5th, 2 O'CLOCK, P. M.

Dr. Woodward in the chair.

Drs. Baker and Hills, in the absence of a previously appointed committee, were requested to conduct the president elect to the chair, which duty they performed. Upon taking the chair, Dr. Hempstead, in a few appropriate remarks, returned his thanks to the convention.

The order of the day was the valedictory address of Dr. Woodward. His theme was that of Ethics, generally, and the recent action of the

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National Association, in particular. He presented this matter to the Society as officially presented to him by the Secretary of that Association.

In a beautifully written address, the Doctor dwelt at some length upon this action of the National body, and said that it would be much better for the profession if most of the restraints established by what is termed the Code of Ethics, were removed. These shackles are not imposed on other professions, and it would be found much better if each member was permitted to be governed by his own sense of right. It was strange that such a dignified body as the American Medical Association should indulge in such hasty action. It would have been far better to have appointed a committee to confer with the Ohio Association, when the matter could probably have been adjusted after due consideration. He recommended an adherence to the original resolutions, and such action as would express to that Association our sense of the indignity he considered they had offered us in their proceedings.

By the suggestion of Dr. Wright, who stated that other papers on the same subject would be presented to the convention, the valedictory of the Ex-President was laid upon the table for the present.

Dr. Wright, from a special committee, appointed at the last convention, to inquire into the expedieney of revising the Code of Medical Ethics, made a lengthy and very *ingenious* report, in which irony, sarcasm and ridicule were freely commingled with arguments, and all hurled with great force upon the devoted code. He deemed a few of its provisions very good, but common place; others were ridiculous; while some were arrogant and assuming. The code was formed, no doubt, with good intentions; but there was no necessity of any code. There was not enough for the good in it, and too much for the bad—who would use some of its provisions to enable them to carry on their evil designs. The great moral law was alone sufficient to guide every one who was fit to belong to the profession. He was desirous of action now. He did not believe in many rules. Some of the best societies have the fewest laws; while too much legislation has been the bane of others. He again expressed himself as decidedly in favor of the abolition of the code of ethics, and concluded the report with the following resolution:

Resolved, That the Ohio State Medical Society does not require the adoption of any code of ethics, as such, for kindness of intercourse, concert of action and scientific improvement—that the great moral code, declaring it our duty to do unto others as we wish others to do unto us, and our own sentiments as gentlemen, are sufficient for all proper professional and social intercourse.

The report and resolution were laid upon the table.

Upon a motion to make the report, together with the address of the ex-president, the special order for Wednesday morning at 9 o'clock, a somewhat lengthy and animated discussion took place, which was continued until the adjournment. It was finally carried.

Drs. Thompson, Baker, Lawson, Wright, Ball an others participated.

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MORNING SESSION, JUNE 6th.

The report and resolutions of the special committee, appointed to inquire into the expediency of revising the code of ethics, together with the address of the ex-president, being the special order for this morning, were taken up, and after various motions, and a somewhat lengthy debate in regard to questions of order, a motion was finally adopted to bring the resolution accompanying the report, before the convention.

Prof. Baker took the floor, and addressed the House at some length, in opposition to the resolutions. He objected not only to the argument in the report of the committee, but the manner in which it was written and delivered. Still, he desired to treat the committee courteously. It was an easy matter to throw ridicule upon any subject by adopting a peculiar manner of treating it. But so far as the code was concerned, it had been read, re-read, and had been received with favor by the profession. It was sensible. A few trivial matters might have been left out, if all whom it was intended to reach were intelligent men, but this was not the case: and so far as he was concerned, the code was satisfactory. It was not expected to be compulsory upon the people; if any one did not show proper respect to his attending physician, it was not expected that his mouth could be shut, but we can claim that the patient should treat his physician courteously, and if he will not do so, he cannot expect the physician to attend upon him, and in a case of that kind, the latter would be sustained by the profession.

Prof. B. dwelt at some length upon the various articles of the code, and concluded by picturing the evil effects which would follow its abolition. It would bring the faculty down to a level with empirics, and destroy the dignity and usefulness of the profession.

In regard to the action of the State Society, at its last session, he thought it to be wrong, and the sooner it retraced its steps the better. He conceived the code to be the Bible of the profession in Cincinnati, and would be extremely sorry to see it mutilated.

On motion of Dr. Wm. Mussey, speeches were limited to ten minutes each, and no one had a right to occupy the floor twice, except by way of explanation.

A motion for the previous question was made, but afterwards withdrawn, and a motion for the indefinite postponement of the whole matter was lost.

The previous question was again called for, but subsequently the motion was withdrawn.

Dr. Murphy said he did not arise to discuss the subject of ethics. That was unnecessary. He considered that the question before the convention was, whether the Society should have an existence after this meeting had adjourned. He was satisfied, after conversation with many members of the profession in various parts of the State, and especially with young men, that, if the action of the last session is not rescinded, a new society will be formed. If he had been a member of the late convention of the National Medical Association, he would have gone farther than it did. He would have made the delegates from this State get down on their knees, and promise to rescind their action, and had it

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not been for the prudence and caution of our friends, this would have been done by the convention, instead of making its action prospective. The delegates should not have been allowed to take seats.

He said that he did not make these remarks in the way of a threat, but simply to say what would take place if this resolution was passed.

Dr. Hills wished to remark that he was a member of the National Convention, and that their action in regard to this matter was not hasty, as stated, but was taken after full consideration; that as first presented to that body it was with misunderstandings; that he took occasion to correct them, which modified the feelings, and hence the action was made prospective instead of immediate. He cared not to reply to the reflections in the report on the conduct of the representatives—the question now was on the abrogation of the entire code of ethics, and he felt that such an act would be disastrous to the Society—would practically dismember it, and be ruinous to the interests of the profession, generally.

Dr. R. Thompson made a few remarks in favor of the resolution. He was of the opinion that any one should have a right to his own invention.

After he concluded, Dr. ——— called for the previous question, but it was withdrawn for the purpose of giving the chairman of the special committee an opportunity to close the debate.

Dr. Wright then took the floor, and briefly replied to some of the objections urged against the resolution. He said he did not care how soon this Society would be severed from the American Association, if a connection with that body could only be held by being subservient to it. He considered the Society in Ohio superior to it, and at some time it might happen that they would be glad of our assistance.

So far as the language of the report and the manner of delivery was concerned, that had nothing to do with its statements or arguments. They were true or false, and his tone could not change their effect.

Men, without the code, would be governed by principle; now, the code governs them. For his part, he would rather trust to the honor of a gentleman than the regulations of the code. He, therefore, asked for its abolition, and if any location desired rules or regulations, they could frame a code adapted to their peculiar position. He regarded the system of ethics as mere twaddle, and was unwilling that the Ohio State Medical Society should humble itself and rescind its former action in order to gain favor with the American Medical Association.

The motion to adopt the report and accompanying resolutions of the committee was then lost by a very large majority.

The following resolutions offered immediately, by Dr. T. W. Gordon, were adopted almost unanimously, without debate.

Resolved, That the resolution offered by Dr. Grant, (a member of this Society, and not at this, or at that time, a practitioner of medicine,) at the last session of this Society, which says "that it is not derogatory to medical dignity, or inconsistent with medical honor, for medical gentlemen to take out a patent right for surgical or medical instruments," was offered at a time when many members of the Society had left for their homes, and was not, therefore, the sense of this Society.

Resolved, also, That said resolution is in direct opposition to the code of Medical Ethics adopted by the Society, and therefore be it further

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Resolved, That said resolution offered by Dr. Grant, and adopted by this Society be, and is hereby rescinded.

On motion of Dr. Murphy, the Secretary was instructed to forward to the Secretary of the American Association and to the Executive committee at Detroit, a statement of the action of this convention, and a copy of the resolutions rescinding those of last year.—*Medical Counsellor*, (*Columbus, Ohio.*)

RECORD OF MEDICAL SCIENCE.

Extract from Elkoplasty, or Anaplasty applied to the treatment of old Ulcers. (A reply to Dr. Watson's "Reclamation.") By FRANK H. HAMILTON, A. M., M. D., Surgeon to the Buffalo Hospital of the Sisters of Charity.

Whether any cases ever occur in which an ulcer refuses to heal, chiefly or solely because of the great amount of integument, which has been lost, I will now consider.

I have said that ulcers generally close over by either the formation of new skin, or by the condensation of the granulations and the consequent contraction of the old skin. The limit to the centripetal contraction of the old skin is determined by its extensibility, qualified sometimes by the proximity of a joint, and the more or less flexure of the parts over which the integument is drawn. To this contraction there is, then, doubtless, a measure. It is not competent to the supply of every supposable loss of integument, and what hereafter remains to be done must be accomplished solely by the formation of new skin, and this mostly, if not wholly, as an outgrowth from the old. The exceptions which occur to this rule are too few to encourage us ever to rely upon them for aid. Let us determine, then, whether also to the formation of this new tissue there is a limit, or whether, on the contrary, it may continue to develop itself indefinitely. It will be fortunate if the latter supposition proves to be the correct one.

When an ulcer is healing, what do we observe? First, the granulations rise gradually towards the surface, until, along the margins at least, the level of the adjacent skin has been attained. At this moment, the new skin begins to form upon the peripheral granulations, as a pale pinkish circle, which becomes daily more and more opaque and white, until, in the end, it approaches very nearly to the color and firmness of the original structure. This process is at first rapid, and promises soon to close over the most extensive wounds in a brief period. And whether the wound is large or small, the same thing may be seen—the formation of new skin tissue is at first rapid, if the health and other circumstances are favorable. Soon, however, it is observed to progress more slowly, and even in ulcers, which were from the beginning quite small, we are often surprised to find how tedious, after a few days of rapid progress, are the final stages; and how long a time it takes to close

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p the last few lines of its surface. Nor is this change in the rapidity f the process by any means owing to a change in the health of the atient. It may often be observed to occur, and with the same unifor- ıity of decline, when the health of the person affected is daily improv- ng. Nor is it, again, because the extensibility of the skin in the icinity has been exhausted, that this delay occurs, for I am speaking nly of the new growth, and it is of this that I observe so constantly hat *its* progress or development is daily more and more tardy. I wish o explain this phenomenon.

I think new skin tissue is formed, not simply upon, but in some sense *by* the old tissue. When, therefore, I say:—"The formative power of the old skin does not extend beyond a few lines. The new vessels, becoming more and more attenuated as they stretch inward from the periphery, lose, at length, the power of generating epithelial cells, or, if formed, they are too imperfectly organized to sustain an existence and they crumble away from the slightest provocation" (*page* 11 *of Article on Elkoplasty.*) I have sought only to express my convictions that the new tissue was dependent upon the old for its material of repair. A belief which, with modifications, is entertained by many pathologists in common with myself. Mr. Miller observes "As a general rule, integument is formed *by* and from integument,"* which expression he afterwards explains to mean, "It is not intended to be understood that the original skin sustains both the production of the organizable material, and the management of the organizing process; the major part of the blastema, whence the cuticular formation is produced, is doubtless furnished by the parts immediately beneath—granulations; and these may also contribute much to the organization. But the process of organization is *commenced* by the original skin, in that portion of the blastema with which it is in immediate contact; and continuance of the process is then, doubtless, maintained by those parts, whether recent or old, with which the advancing pellicle comes in contact."†

But certainly this is a point in pathology which is yet far from being absolutely determined. Whether the lymph which is to develop subsequently into epithelial cells has issued from the capillary vessels of the old skin, or from the vessels of the granulations, the microscope does not decide. The vessels from both of these structures are lying in close juxtaposition, if they are not actually in inosculation, wherever the epithelial cell or its plasma is sought to be obtained. The precise source, therefore, of this reparative material, remains at present a matter of conjecture. Mr. Miller believes that the old tissue furnishes the first plasma, and that subsequently the granulations assume this function entirely, leaving the old tissue no other duty, perhaps, than that of "management," or the assimilation of the products.

I wish to express my dissent from only the latter part of this hypothesis, and to explain more fully why I suppose that the old tissue continues to the last, not only the management, or adaptation of the new material, but also the production or effusion of the same; from which, also, I shall deduce the inference, that, when the old skin or its

* Principles of Surgery, by James Miller. 3d Amer. Ed., p. 199.
† Page 199.

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vessels fail to furnish a supply of blastema, the cicatrization must generally cease.

First.—If the granulations or their appropriate vessels are competent, after the process has been commenced by the vessels of the old skin, to the formation of suitable plasma for the construction of epithelium—if this is with them a usual or a normal function, then ought they to perform this duty with as much speed and certainty as did the vessels of the old skin, whose function they have now assumed. But the fact is otherwise. The process, at the moment when it is believed that the skin has relinquished its productive agency to the granulations, languishes and finally ceases altogether.

If, however, we regard the new skin tissue, or the lymph of which it is to be constructed, as always a product of the old, or at least that the new material shall always require some element of matter from the old skin, which shall determine its development into epithelium, then we can readily understand how the gradual diminution of the capillaries through a new and always less perfectly organized structure shall at length render it impossible for them to furnish the plasma requisite for the repair, or for the construction of epithelium cells.

Second.—There are many analogies in the various processes of reproduction and repair which furnish support to this doctrine. Each tissue, when inflamed, furnishes a reparative material like that from which itself has been constructed. "When it is seen that in inflammations of bone the lymph usually ossifies; in those of ligament, is converted into a tough ligamentous tissue; and that, in general, lymph is organized into a tissue more or less corresponding with that from whose vessels it was derived; it is usually concluded that this happens under what is called the assimilative influence of the tissues adjacent to the organized lymph. But we may better explain the facts, by believing that the material formed in the inflammation of each part partakes, from the first, in the properties of the material products of that part; in properties which we know often determine the mode of formation independently of any assimilative force."*

I think, moreover, this case itself—the ulcer which continues to cicatrize more and more slowly—furnishes evidence that it is not by the law of analogous formations, or by assimilation, that epithelial cells are here determined, since this law would continue to operate to the consummation of the cure, and that without delay or abatement.

Third.—I have made a careful vertical section into the new skin, parallel to and about one line from the visible margin of a healing ulcer, and I have observed that the process of cicatrization, along this margin, was on the third or fourth day thereafter sensibly delayed. This I have repeated many times on ulcers, at various stages of cure, and always with the same result, provided the walls of the incision were kept only slightly asunder after the wound had been made.

I do not see how this incision should have disturbed the plastic or assimilative force of the free and yet unbroken margin, nor how the

* Lectures on Surgical Pathology, by James Paget. Amer. Ed., p. 223.

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circumstance of retardation can be explained, if we believe the granulations below alone furnish the supplies for the new skin. And yet the fact finds a ready solution in the hypothesis that the old skin, or its capillaries, were the vehicles of nutriment for the new, and that by this bisection of their channels the supply has been cut off or interrupted.

My argument is, finally, that such cases as I have supposed, in which the ulcer will refuse to heal, solely because of the extent of tegumentary loss, do and must continue to occur, from the very laws which govern the cicatrization of such wounds.

That they do occur, I affirm also from my own observation and from the concurrent observation of others. Again and again do we find it necessary to amputate a limb, because the integument has been stripped from it beyond the power of nature to repair; and if the same results do not follow after extensive burns, it is, doubtless, because the original skin is only partially destroyed over all this surface, and there remains, therefore, a multitude of little islets from which new skin is capable of advancing.

As pertinent to this question, I will quote from a recent American reprint: "Cicatrization advances with greatest rapidity around the edges of the sore; the centre taking the longest time to heal, in consequence of the activity of the process appearing to diminish, the further the new skin extends from the old tissues. *Indeed, if the ulcer be large, there may not be sufficient for the cicatrization of the centre.*"*

But if it were true that all ulcers may in time be cured, under proper medical treatment, may it not be well to interfere in some cases of very much delayed healing? One of Dr. Watson's patients had waited ten years, and yet the sore refused to heal, and during a part of this time he was under Dr. Watson's care, and in bed. That all sores will not heal in ten years, even under good management, this case sufficiently illustrates; and I think there are very few large hospitals in which many similar cases might not be found.—*N. Y. Journal of Medicine.*

* Science and Art of Surgery, by John Erichsen. American Edition, p. 69.

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Abstract of Meteorological Observations for May, 1855, made at Philadelphia, Pa. Latitude 39° 57′ 28″ N., Longitude 75° 10′ 40″ W. from Greenwich. By PROF. JAMES A. KIRKPATRICK.

1855. May.	BAROMETER. Daily Mean	BAROMETER. Mean Daily Range.	THERMOM. Daily Mean	THERMOM. Mean Daily Range	Dew Point 2 P.M.	Force of Vapor 2 P.M.	Rel. Humid. 2 P.M.	Rain.	Prevailing Winds.	Remarks.
	Inches.	Inches.	Deg.	Deg.	Deg.	Inches.	Hunds.	Inch.	Points.	
1	29.781	.143	59.8	6.3	58.0	.499	.91	0.030	NW.	M. *Rain*; aft. and ev. cloudy.
2	29.963	.182	61.7	4.5	43.3	.335	.47		(Var.)	Cloudy.
3	29.900	.030	54.7	7.0	43.3	.295	.68	0.005	NE.	Cloudy; ev. *Rain.*
4	29.733	.200	58.7	5.3	27.3	.136	.21		NW.	Clear.
5	29.765	.032	62.0	3.3	25.3	.124	.16		NW.	Clear.
6	29.706	.073	65.3	3.3	46.0	.389	.45		(Var.)	Clear; m. hasy.
7	29.634	.072	59.0	6.3	30.7	.177	.26		E.	Cloudy; m. hasy. [*Pst* 29.449
8	29.531	.106	48.0	11.0	43.0	.284	.78	0.238	(Var.)	Cl'y; m. aft. & n't *Rain. Bar.*
9	29.774	.243	45.3	2.7	38.3	.235	.64	0.546	NW.	Cl'dy; m. *Rain; Th. lo'st.* 40°
10	29.941	.170	56.0	10.7	31.7	.176	.32		WNW.	Clear; m. hasy.
11	29.878	.063	62.0	6.0	33.7	.221	.29		W.	Clear.
12	29.847	.052	63.3	1.3	39.3	.296	.38		WSW.	Cloudy.
13	29.855	.015	65.3	2.0	46.3	.390	.50		(Var.)	M. clear; aft. and ev. cloudy.
14	29.810	.046	72.8	7.5	32.3	.268	.21		SW.	Cloudy.
15	29.815	.036	76.3	3.8	45.0	.467	.37		SW.	Cloudy; *Therm. highest* 87°.
16	29.703	.112	77.5	3.2	39.3	.372	.30		SW.	Cloudy.
17	29.833	.137	65.5	4.8	43.3	.335	.47	0.482	NW.	M. *Rain;* aft. & ev. clear.
18	29.952	.119	63.3	4.7	35.7	.252	.31		NE.	Cloudy.
19	29.637	.315	55.8	7.7	59.0	.500	1.00	1.543	NE.	Cloudy; *Rain* all day.
20	29.504	.133	61.5	5.7	48.7	.389	.63	0.036	NW.	M. dris'ng rain; a. cl'y; ev. cl'r
21	29.576	.071	63.7	6.8	32.3	.207	.27		NW.	M. cloudy; aft. and ev. clear.
22	29.685	.106	62.2	1.5	34.7	.237	.30		NW.	Clear.
23	29.782	.097	64.5	3.3	44.7	.382	.44		(Var.)	Clear. [*th.* 9½; *R.* from 10 P.M.
24	29.785	.017	74.5	10.3	60.7	.704	.59	0.154	(Var.)	*R.* 4 to 6 A.M.; *Fog* from 7½ P.M.
25	29.820	.035	71.0	7.8	37.3	.292	.31		N.	M. and aft. cloudy; ev. clear.
26	29.875	.056	64.3	6.7	34.0	.219	.30		NNW.	M. and aft. cloudy; ev. clear.
27	29.874	.010	63.7	4.0	33.7	.221	.29		NW.	Clear.
28	29.921	.047	67.7	4.0	38.7	.273	.31		(Var.)	Cloudy.
29	29.907	.073	69.7	3.3	40.3	.349	.34		(Var.)	Cloudy. [*Bar. hig'st* 30.124
30	30.095	.098	68.7	1.3	46.3	.430	.43		S.	M. and aft. cloudy; ev. clear;
31	30.044	.051	72.8	4.2	50.7	.510	.48		S.	M. clear; aft. and ev. cloudy.
Means for May, 1855	29.807	.095	63.8	5.2	41.4	.321	.43	3.033	N. 48° W., 56–100.	
4 yrs	29.858	.093	63.8	5.2	47.1			4.635	N. 73° W., 37–100.	

The Monthly Range of the Barometer was 0.675 of an inch., and of the Thermometer 47°.

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THE

MEDICAL EXAMINER.

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ORIGINAL COMMUNICATIONS.

*On Animal Decomposition as the Chief Promotive Cause of Cholera.** By HENRY HARTSHORNE, M.D.

Notwithstanding all that has been said upon the subject, sufficient emphasis does not appear yet to have been placed upon the influence exerted in the propagation of Epidemic Cholera by *animal*, as contrasted with *vegetable* decay and decomposition.

A marked difference evidently exists, in this respect, between Cholera, on the one hand, and, on the other, Autumnal Fever, whose promotive influences are either vegetative or telluric, and Yellow Fever, which seems to require a certain combination of both. In correspondence with this, a striking contrast to yellow fever and its kindred diseases is found in the fact that, in India, Europeans are less subject to the cholera than natives. In the Mauritius, and elsewhere, negro slaves, who are insusceptible of the fevers of the climate, are quite as liable (or from habits of living, more so) as any others, to cholera.†

A few facts may be appropriately given, to demonstrate the position implied in the title of this paper.

*Abstract of a paper read before the Philadelphia County Medical Society, April, 1855.

† Orton on Cholera in India, pp. 450–453.

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The Gangetic Delta being the great focus and centre of the disease, certain traits in the usages and circumstances of that locality and its population are found to have a direct bearing upon the subject. Among these may be named, the peculiarity of the inhabitants in disposing of the dead. Only the Mahommedans, in India, and the peers of highest rank, bury their dead. The mass of the people either burn the bodies, or throw them into the water, without any sort of interment. Supposing, even, that the perfect incineration of human corpses would remove all perniciously decomposable matter, there is evidence that the way in which it is done, or not done, must rather aggravate the evil.* I have heard the incompleteness of the burning described by an eye-witness. But large numbers of the poorer classes are constantly being thrown, after death, into the Ganges and its tributaries; that river being held to be a sacred stream —the gateway to heaven. A traveller saw twenty bodies thus disposed of in one morning before breakfast! At Allahabad, at the junction of the Ganges and Jumna, many persons drown themselves, as devotees; and others are often drowped by the pressure of crowds immersing themselves in the sacred spot.† But a still greater mortality attends the worship of Juggernauth; the annual average of pilgrims to whose temple is said to be 120,000. Thousands of these poor wretches die from famine, fatigue and exposure, during the journey, and are left to rot. In half an acre, 150 bodies have been counted.‡ One writer (Asiatic Journal), asserts that he saw 300 unburied bodies within five miles. Lieut. Colonel Forest§ met with "half a mile of human skulls upon a bend of the river."

Add, then, to these facts, that the Ganges yearly overflows its banks, from one to two hundred miles in some places. The efflux of such an inundation, in the dry season, must expose a quantity of piscine and other animal matter to putrefaction, perhaps nowhere else to be seen. From the geological formation of the Delta, Sir Charles Lyell || observes, that "it is easy to per-

* Stocqueler, Handbook of India, p. 366.
† Ibid, p. 407.
‡ Ibid, p. 508.
§ Tour along the Ganges and Jumna.
|| Geology, vol. iv., p. 359.

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ceive that both animal and vegetable remains must continually be precipitated into the flood, and sometimes become imbedded in the sediment which subsides in the delta."

S. Rogers, F.R.S., a British army surgeon, in his report on cholera in the Madras army, gives the following kindred facts:—

"The Coom river nearly encircles the village of Chintandrepett. This river was made a privy of by hundreds of natives daily; and when the monsoon was heavy, and the bottom of this Augean stable thoroughly cleansed, no ill resulted, but if the monsoon failed, and the river remained uncleansed, when the hot weather returned, the water became low, and the filth at the bottom was exposed to the sun, the smell was most offensive, and *an attack of the cholera was the certain result*, the only victims being those residing within a short distance from its banks."

In the western part of Europe, influences connected with the living have long been noticed, in closely aggregated communities, to display a similar propagative power.

The facts which the elaborate statistics, researches and arguments of Dr. Baly's report to the Royal College of Physicians, (London, 1854,) have brought to bear upon the opinion that *human intercourse* is, at least, one of the principal modes of transmission and migration of the epidemic cause, have *this* extent precisely. The learned author is barely willing to admit contagion as a rare, contingent *possibility*. It is difficult to evade the admission of this possibility. Certain facts maintain a degree of stubbornness in regard to it, difficult to reason away. I allude to such facts as those quoted by Dr. Alison* as occurring in Edinburgh in 1832, in Toulon, in 1833, and in Arbroath, Scotland, in 1853; those given by Dr. Berg in his treatise on the Cholera in Sweden, in 1850; one instance by Dr. S. H. Dickson, in Charleston, 1832,† and those mentioned by Drs. Simpson and Craig‡ as occurring in Scotland during different years; all cases in which the evidence consisted not merely in a succession of persons having been attacked after contact with the sick, but in that *these persons only* were attacked, for a long time before

* British and Foreign Medico-Chirurg. Review, Jan. 1854.

† American Journal of Medical Science, vol. xiii. p. 309.

‡ Edinburgh Monthly Medical Journal, 1849.

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and after, while those around differed in no circumstance, except in the absence of such exposure. Other cases have also been given by Littré, Velpeau, Gendron, &c.* But all considerations enforce the exceptional character of such facts; while examples of the contrary,—that is, of the manifest absence of contagion under the most favorable circumstances for it, are innumerable. As an illustration of these I may name only that of Annan, in Scotland; which is a town nearly equidistant from Carlisle and Dumfries, between which places a constant communication is always kept up via Annan, this being directly in the main line of traffic; and yet this town was entirely exempt from cholera, in 1832 and 1848, although the disease prevailed both in Dumfries and Carlisle.†

We come, then, to find, in the facts and inductions of Dr. Baly, evidence quite in apposition with the present enquiry, the alternative of contagion, as a rule, being withdrawn. It is proper, however, to guard our admission of the force of these inductions, by refusing to believe that human intercourse has been the *only* means by which the epidemic has migrated, even across the ocean. The instances of the Tonawanda and Tuscarora, upon which the cholera broke out after two weeks, more or less, at sea, and in one of which it was cut short by an iceberg, while neither brought any sick into port, are familiar. In these, and many other similar occurrences, the disease is to be accounted for by an atmospheric visitation alone. The efforts made by Dr. Baly to do away with this clear explanation in the case of the two ships New York and Swanton, (December, 1848), are among the least philosophical of his reasonings; importation by them being impossible, as there was no cholera at Havre when they left there, and the passengers, Germans, had been three months domiciliated in the place before they sailed.‡ Dr. Baly does not deny the atmospheric mode of extension as occurring sometimes; although he believes it to be much more often traceable to *infection by means of human intercourse.* As, then, his careful analysis of

* Vide Tardieu on Epidemic Cholera, p. 114.

† Account by Dr. Grieve, of Dumfries, in Edin. Monthly Journ. of Med. Sci., April, 1854.

‡ Report, by Dr. James Wynne, on Cholera in the United States, in 1849 and 1850.

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the facts, as well as the aggregate testimony of other observers, proves that this mode of infection does not consist in the *reproduction of the poison in the bodies of the sick*, so as to emanate from them as a true contagion,* we must infer that it is only by affording the conditions for the multiplication of the cause without the bodies of both sick and well, that human intercourse usually has its effect.

The universal report of those who have contributed to the statistics of Dr. Baly, is to the effect that mortality from cholera is almost invariably commensurate with the filth and destitution of the inhabitants and their abodes. Abundance of testimony† is afforded to the same point by other writers, especially in regard to large, crowded, and dirty towns; as in Moscow, Paris, Marseilles, Liverpool, Manchester, Edinburgh, &c. In Moscow, in 1832–33, the deaths were as high as 1 in 32 of the whole population.

In Holland, Suermann found the mortality to be 1·54 in 1000 in rural districts; in the towns, 8·93 in 1000. This latter fact may suggest to our consideration the comparatively slight degree in which lowness and dampness alone affect the mortality from this disease. And the candid assertion of Dr. Baly himself, that some of the districts in which the rate of mortality was highest in Great Britain, in 1849 as well as in 1832, "have a high level, and lie in the central regions of country where the rivers take their rise," may more clearly shew that elevation does not afford immunity, and that lowness and dampness act so far only as they are promotive of the accumulation of animal filth and its products. "In the evidence received," says the same writer, "lowness of site is not very prominently set forth among the unfavorable sanitary conditions; being, in fact, specifically mentioned only *five* times." Yet out of 68 places where cholera raged, bad ventilation and over-crowding of houses are mentioned *fifty four times*, defective drainage twenty eight times, cess-pools, open sewers, &c., sixteen times, &c. Among the striking instances in which a very partial distribution of the epidemic occurred in almost contiguous localities, *pari passu* with variation in the

* Schmidt, Characteristik der Cholera, p. 81.

† E. g., Milroy, on Cholera and Quarantine; Reid, Letter to Lord Morpeth, 1848; Starr, Discourse on Asiatic Cholera, etc.

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above respects, I may remind the reader of that of the three prisons at Wakefield,* on the same plot of ground, seventeen acres in extent.

We may recall here, also, the illustrative fact, that Orton, in his excellent treatise on the Cholera in India, while alluding to the effect of high and dry sites, observes, that "unhappily the immunity arising from situation was only temporary."† Again, Jameson, in a history of the Epidemic Cholera of Bengal,‡ mentions that it would "sometimes single out *elevated* and *airy* points, sparing those in the plain below." "It *always*, however," he adds, "affected a *crowded population*." In Russia, Dr. Frettenbacher, of Moscow, states, in a statistical report, that "it propagated itself *especially* in unhealthy and confined dwellings."§ S. Rogers, already, quoted, says, expressly, that it "has no (direct) reference to the geological structure of the country."

A valuable amount of testimony is afforded in regard to the influence of the *drinking water* of localities. The sweeping generalization of Dr. Snow, to the effect that this, namely, conveyance by the drink and food of the sick and others, was the principal or only mode‖ by which the disease was extended and transported, proves to be incorrect; witness the instances of attack at sea, of slow migration over sea, &c. But the effect of the water-supply is still of great importance, as showing the power of *animal contamination*. Bethlehem Hospital, supplied by an artesian well, had among 400 inmates, no case of cholera in 1849; it being the only large lunatic asylum in London which escaped, as it was the only one furnished with spring water. The facts with regard to the different districts supplied from the Thames, some from above and others from below the entrance of the sewers, are very remarkable; showing a difference, between the two extremes, of a mortality, in the one case, (of contaminated water) of from 28 to 205 in the 10,000 inhabitants, and in the other, (purer water) of only from 8 to 33 in the same number.¶

* Op. citat. p. 20.

† Op. citat. p. 404.

‡ Reviewed in Chapman's Journal, vol ii. p. 361.

§ Gazette Médicale, Jan. 13th, 1849.

‖ Oration on Continuous Molecular Changes, p. 18.

¶ Baly's Report, p. 205.

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Let us refer, in this connection, to the conclusions reported by Dr. Pettenkoffer, of Munich, to the Bavarian Government.* The substance of them is essentially as follows:

"The products of decomposition of human and animal excrements contained in the soil, appear to be the elements that determine the soil's capability for absorbing the miasm, independently of the elevation above the level of the sea."

"The excrements of cholera patients, when in a state of decomposition, become fertile sources for the propagation of the disease in families."

It is, we need hardly repeat, justly observed by Dr. Baly, that the influence of the drinking or other water cannot be shewn to consist in its serving as a vehicle for a poison, a contagion, generated specially in the bodies of those who have suffered from the disease. We have seen that this cannot be, since there *is no such* contagion, generally speaking, if it even can ever exist. I refer once more, upon this point, to the inquiries and experiments of Schmidt, and of Meyer, Marshall, and others, mentioned by Dr. Gull,† as well as to the earlier ones of Lizars, Coste, &c.,‡ and those of the surgeons and medical students at Moscow and Dantzic, in 1832.‖

As illustrative of the same topic, the observations of Prof. Thiersch, of Munich, should be alluded to.§ He found that "the matters evacuated by vomiting and diarrhœa do not, when recent, propagate the disease; they are not contagious. If the matters evacuated by stool are left to themselves, at a temperature of from 41° to 50° Fahr., in from three to seven days a change takes place; they undergo a process of fermentation; they are then capable of exciting cholera in healthy individuals." This position is supported by an account of careful trials made upon animals. These experiments being, of course, performable only at the time and place of the prevalence of a cholera epidemic or endemic, there is nothing to oppose, but everything to favor the opinion, that matters of the kind mentioned serve only, like

* Med. Times and Gazette, Nov. 18th, 1854.
† Reports, &c., p. 122.
‡ On Cholera Asphyxia in 1832, p. 61, &c.
‖ Ibid, p. 62, note.
§ Med. Times and Gazette, Nov. 1854.

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other decomposable animal materials, as a *pabulum* or *nidus* for the sustenance and development of the unknown *specific cause.*

We may remark, also, that the same explanation would appear to apply to the experiments narrated in the Edinburgh Medical and Surgical Journal (April and October, 1854) by Dr. Lauer Lindsay. These afford us no reason for their exemption from the category in which Dr. Lindsay places those of Mr. Marshall, published a year earlier,* namely, that "all the experiments hitherto made appear to be negative in their results, objectionable, or inconclusive." Referring to the observations of Dr. Thiersch, just given, we may note, upon this point, the fact that the time during which the animals (dogs) used by Dr. Lindsay were exposed to the combined effects of confinement, swallowing and breathing the matters of evacuation and perspiration of cholera patients, was in no case less than seven days (from the 19th to the 26th Nov.) before marked symptoms occurred; and that these symptoms ought hardly to be called *specific*, as the discharges were "decidedly biliary,—green—and greenish feculent matter," and "emitting an intolerable stench." Dog No. 1 is also stated to have become *somewhat lively and greatly better* after having eaten a quantity of the flesh, fat and blood of dog No. 2, which died on the previous day. The expression of Mr. Marshall is clearly correct, that this evidence is still "short of actual proof."

Leaving trans-atlantic authorities, we shall find in the new world a still increasing force in the testimony in regard to the subject of this discussion. On referring to the "Report by James Wynne, M.D., on Cholera in the United States in 1849 and 1850†," we may observe, upon almost *every page*, matter directly to our purpose.

A single quotation may therefore suffice as an example and illustration of this.

"As a *general fact*," says Dr. McPheeters, of St. Louis,‡ "the cholera prevailed most in those parts of the city in which there were the *largest number of persons herded together*, where the streets were unpaved, and where there was the greatest amount of *filth* and moisture." In Louisville, Buffalo, New York,

* Brit. and For. Medico-Chirurg. Rev., April, 1853.

† Presented to both Houses of Parliament, and published in 1852.

‡ Op. citat., p. 15.

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Philadelphia, and Boston, essentially identical, and equally emphatic, statements are made by the correspondents and collaborators of Dr. Wynne. In Baltimore, some very striking facts occurred* in the history of the epidemic in the Almshouse, in July, 1849. No cases being in the city at the time, those which took place in that Institution were accounted for (by Dr. Buckler) by the presence of a very large and foul overfloiwng cesspool, whose contents mingled with the washings of the dead house, &c. &c., upon the north side of the building. Upon this side, where there was a door opening to the north, all of the lunatic inmates, seventeen in number, were attacked with cholera, and all died. *The remaining inmates of the same building entirely escaped.* Of the eight medical students attached to the Almshouse, the four whose rooms were not thus exposed, escaped. The manager, who slept in a room above that of the students, looking to the north, was likewise seized with the disease, but recovered. His family, whose rooms looked to the south, escaped. In the cases which occurred among the pauper inmates, those generally were attacked who slept in a position exposing them to the wind from the north.

The whole tenor of the reports, from which the above excerpts are derived, is decidedly adverse to the opinion of *contagion* being at all a frequent, if it be even an occasional mode of propagation of cholera.

In conclusion, I will add only a brief allusion to a few localities and occurrences not mentioned in the above documents.

The history of the fatal epidemic at Columbia, Pa., in September, 1854, is very well known. Cholera had never appeared in that town before. What was the reason of its heavy visitation then? Chiefly the facts, that an exceeding drought had reduced the channel of the river to an unusually low ebb, and that, in its bed, a short space above the town, a number of carcases of sheep and other animals, thrown from the railroad trains, &c., were putrefying rankly in the sun. A reservoir which supplied many of the people with drinking water was filled from the river not far from that spot, and the wind blew from it directly over the town. If we are correctly informed, the first subsidence of the disease attended a change of the wind.

At Pittsburgh, shortly after the above events, a similar epidemic

* Ibid, p. 72.

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occurred. A gentleman on a visit to that locality not many days before the disease broke out, informed me that the same condition of the rivers existed there, with a similar abundance of *accumulated, putrefying, animal matter*, exposed to the sun.

In Rhode Island, in the autumn of the same year, the writer was told that the local existence of cholera in a few spots, otherwise very healthy, might be traced in coincidence, at least, with a practice not uncommon along the shore of the sea or bays, of dragging up fish in quantities by nets, and spreading them out to rot for manure.

And, lastly, in Barbadoes, where a considerable fatality from cholera has at different times occurred, Dr. W. H. Freeman, late U. S. Consul to that island, reports a very similar sanitary condition to those above related, even to some extent recalling the last item mentioned.

There may be, perhaps, no actual novelty in the views above expressed, more than in the well-known facts by which it has been endeavored to support them. My object has been, simply, to collate such data as would seem to show the paramount comparative importance of animal matter in a state of "post-organic" change, as the food or fuel of the cholera-cause. The difference between this disease and Typhus (in origin) would appear to be, that while the latter may almost *invariably* be produced by the persistence of certain unfavorable sanitary conditions, the former, Cholera, is generated *only in the presence of a certain unknown contingent*, whose capriciousness of migration, partial subjection to temperature, and other habitudes, suggest the probability of the animalcular hypothesis.

Whatever the theory, the lesson from all the facts is one (often told but not yet well learned) of hygiene and prevention. Cities should be built and regulated to prevent epidemics, as they should be to afford security from conflagrations. The laws of public benevolence, like those of private morality, are an essential part of the economy of the world. As personal vice brings misery, by the violation of physical laws, so the aggregate vice of communities, and the neglect of the higher classes to do their best for those around them, meet with retribution, in those scourges, which, under the forms of plague, cholera, typhus, and yellow fever, desolate populations almost in proportion to the errors of their local life.

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Hooping Cough. By LAURENCE TURNBULL, M.D. of Philad'a.

This disease has been to me one of much thought and considerable personal interest, from having had four of my children attacked with it in its most aggravated form. My attention was also particularly called to it during the months of May and June 1854, when the malady prevailed to a considerable extent in our city; cases of it have also continued to occur up to the present month, July, 1855.

In referring to the works of Hippocrates, (Sydenham Society's Edit. in two vols. London, 1849,) I find no description of hooping cough, neither is there any account of it in the Seven Books of Paulus Ægineta,* so that I would infer that the Greeks, Romans and Arabians were not acquainted with it as a distinct disease.

Dr. Willis was the first medical writer who accurately described hooping or chin cough, his work being published in 1682, (in two vols.)† It was not until the present century, however, that this disease was fully investigated and made known to the medical public, which was chiefly done by the labors of Rosen, Cullen, Schæfer, Hufeland, Mathaï, John, Authenrieth, Watt of Glasgow and Albers of Bremen. It is stated by Rosen, that it passed from the East Indies and Africa into Europe.

First stage.—The first stage of hooping cough has no distinct and prominent symptoms by which it can be distinguished from ordinary catarrh, or bronchitis, except, perhaps, a slight difference in the voice and cough which sounds louder and shriller; the expectoration is usually limpid, but in some instances I have noticed it opaque, yellow, and even greenish.

This period may last from five days to as many weeks. Lombard states that in an epidemic which occurred at Geneva, it lasted from one month to six weeks; when the hoop is going to occur, it is usually noticed in the second or third week, but I have had several cases where the cough was present without the hoop.

* The Seven Books of Paulus Ægineta, translated from the Greek, by Francis Adams, L. L. D., in three vols. London, printed for the Sydenham Society, 1844.

† "Tussis puerorum convulsiva, sue suffocativa et nostro idiomate *chincough* vulgo dicta." (Opera Omnia, Amst. 1682, vol. ii. p. 169.)

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This absence of the hoop is often very unfortunate, for children may in this way propagate the disease, and cause whole families and even schools to be attacked. This fact was proven in the case of my son, aged seven years; he sat in school by the side of a little boy who had a cough, which was very sonorous and painful to listen to, but the anxiety of the teacher was much relieved by being informed that his physician did not consider it hooping cough; subsequently the youngest child of this family was attacked by the disease and hooped, and the boy was then kept from school, but too late to save the other members of his class, ten of whom took the disease, so that the school was nearly broken up; my son communicated it to his three sisters, who all suffered more severely from it than he did.

I therefore think that children should not be allowed to mix with their companions when suffering from a cough of this character, if the disease prevail in the locality.

Second Stage.—The second or spasmodic state of this malady, is easily known, by the peculiar sound and suffocating character of the cough. In this stage almost every organ is irritated, and it even produces discharges of blood from the nose and mouth. The expression of the countenance is most distressing. When this stage is at its height, the child seems to know by some inward sensation that the attack is coming on, and it either cries or lays hold of some object by which it can support itself until the paroxysm is over. The face and neck become swollen, and in some instances remain so, and the child, at the termination of a fit of coughing, either discharges some thick tenacious ropy mucus, or evacuates the entire contents of the stomach.

The least mental excitement, either of joy or sorrow, will induce an attack, and the number varies with the severity of the disease. The paroxysms last from one fourth to three fourths of a minute.

The average duration of hooping cough is from six to eight weeks if not checked, but in many instances it lasts as many months; second attacks are rare and yet they do occur. Hooping cough prevailed in this city with measles, in May and June, 1854, followed in October and November by chicken pox, and in January, 1855, by scarlet fever, with sporadic cases of catarrh and croup, showing a connection or relation one with another, so

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that the same causes may give rise during an epidemic to simple catarrh, croup, hooping cough, or even measles.

The complications of hooping cough I cannot enter into, but the chief of them are croup, bronchitis, pneumonia, pleurisy and diseases of the brain and cavity of the abdomen, which are to be recognized by their characteristic symptoms.

According to Billard, post-mortem examinations have not revealed anything uniform in this disease, except bronchial catarrh in its various stages.

Sydenham imputed the disease to a subtle and irritating vapor in the blood. Hufeland considers that the eighth pair of nerves is diseased, and is the cause of the double irritation of the bronchia and stomach. According to M. Guersent (Dict. de Méd.) hooping cough is a catarrhal affection, seated in the trachea and bronchi, consisting of a specific inflammation, accompanied with spasm of the trachea and glottis. Dr. Watt, of Glasgow, considers the disease to be inflammatory and seated in the bronchi. Albers, of Bremen, considers hooping cough to be an affection of the nerves of the thorax, with which bronchitis is frequently complicated. Lænnec regards it as a variety of pulmonary catarrh, and from the convulsive character of the cough he calls it convulsive catarrh.

Dr. Webster (Med. and Phys. Jour.) is of the opinion that the symptoms, when closely viewed, suggest the impression that hooping cough depends upon inflammatory irritation of the brain or its membranes. This is the opinion held by Dr. Copland, and very many distinguised men of the present day, but to my mind it is not satisfactory. The hooping cough, in its first stage, is certainly of an inflammatory character, chiefly affecting the lining membrane of the air passages, but this is of a specific nature. In the second stage there is no evidence of inflammation indicated either by the pulse, skin, or any other organ, but there is a powerful irritation of the laryngeal constrictor, and bronchial muscles and nerves, producing a cough which occurs rapidly many times so that a single inspiration is followed by five or six successive expirations constituting paroxysms of coughing (tussis accessus), accompanied with redness of the face, watery eyes, headache, tinnitus aurium, fulness of the cervical veins, retching and sometimes vomiting.

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By some writers it has been considered that this disease was produced by a peculiar miasma, acting chiefly on the nerves, and is also ascribed to the presence of minute insects in the air (Boehme—Linnæus,) or, according to Prof. J. K. Mitchell, its epidemic origin may be a peculiar fungus; "the spores of these plants are not only numerous, minute, and indefinitely diffused, but, like the animal, all have the power of penetrating into and growing upon the most interior tissues of the human body," passing into the systems of those exposed to its influence by the respiratory organs or stomach, producing the irritation of the mucous membrane of the air passages. "Introduced into the body through the stomach, or by the skin or lungs, cryptogamous poisons are known to produce diseases of a febrile character, intermittent, remittent and continued—and even the disease of the mucous membrane termed aphthæ, arises from the presence of minute fungi."*

Dr. M. has not made this application of his doctrine to this particular disease, yet I do not see any good reason why it should not be so applied. According to Dr. Spengler, of Ellville, epidemic diseases depend on the presence or absence of ozone. He states that in the village of Roggendorf, in Mecklenburgh, towards the close of 1846, when slight catarrhal affections became prevalent, but slight traces of ozone were to be detected in the air. With the opening of the following year, however, these catarrhal affections assumed the severest forms of tracheal and bronchial disease, and hooping cough became common both among children and adults; then reagents detected a great increase of ozone in the atmosphere."†

Prognosis.

The prognosis in uncomplicated hooping cough is very favorable, and is unfavorable, only, in proportion to the dangerous nature of its complications and the age of the child; the best season for a favorable termination is spring or summer.

The modes of Propagation.—The disease may occur epidemically or sporadically, and it possesses infectious properties. It is propagated through a family from one to another; they are not all apt to be attacked at the same time, and by removal to a dis-

* On the Cryptogamous Origin of Malaria and Epidemic Fevers. J. K. Mitchell, M. D. Philada. 1849.

† Lond. Med. Gaz. Henlie's Zeitschrift, vol. vii. p. 1.

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ince a child may escape. Dr. Cullen believed that it disappeared in from four to six weeks, but this has not been proved by subsequent observation. Children who have suffered from this disease, should not be sent to school or play with their companions or at least two months.

Treatment.—There are but two classes of symptoms to be combatted in this disease when no complication exists. The inflammation must be reduced by depletion, expectorants and refrigerants. In the second class of symptoms, the chief object is to diminish the abundant secretion and allay the great irritability of the laryngeal constrictor, and bronchial muscles and nerves.

The means to accomplish this, in my hands, has been the abstraction of blood; the application of a few cups or leeches to the nape of the neck or under the clavicle, with counter irritation, by means of sinapisms and blisters, which will soon allay the congestion of the brain or lungs. To diminish the febrile action small doses of tartar emetic, combined with Dover's powder or prepared chalk, with the free use of syrup of ipecacuanha as an emetic may be given; these will lessen the bronchial inflammation, and remedy the often disordered state of the stomach and bowels.

During the whole stage of the disease, demulcent drinks should be freely administered, such as flax seed tea, barley or rice water. When fully satisfied that the inflammation has been subdued, indicated by a slower pulse, less heat of skin and no active congestion of the brain or lungs, I have then followed the treatment with belladonna, and my success with this remedy has been most gratifying. Before administering it I tried, in vain, the free use of cochineal in combination with alkalies, assafœtida, opium, alum, hydrocyanic acid, &c. In every instance in which the system was fully brought under the influence of the belladonna, indicated by dilatation of the pupil with confused vision and reddened skin, I was enabled to check the annoying cough and hoop of thirteen children during the months of May and June, 1854, and seven cases since that time, making twenty cases in all, eight males and twenty females; the youngest was nine months and the eldest ten years.

The following was the method followed: The system being prepared by reducing the inflammation by the means before spoken of, obtain, if possible, English extract of belladonna, fresh and

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good; let the extract be triturated with water or simple syrup; if it is to be kept for some time, add a small quantity of alcohol. The dose for a child three months old is the sixteenth of a grain every three hours, to a child one year one eighth of a grain, and so to other ages in proportion.

Inform the parent or nurse of the change it will produce upon the eye, also that it may redden the skin. When full dilatation of the pupil is brought about, the medicine is to be intermitted until it has gone off again; the belladonna is to be administered in slightly increasing doses, so as to keep the child under its influence for several days or until the paroxysms are checked, which will usually occur towards the sixth or eighth day of the second stage.

In the twenty cases cured by the use of the belladonna the cough and hoop returned in a few cases on exposure to cold, or in disagreeable, windy weather; but by combining the extract with syrup of ipecacuanha a few doses soon checked the cough and hoop; in only one case out of this number was it complicated with inflammation of the lungs, and this case recovered.

The average duration of my twenty cases was ten days, after the hoop had commenced when the case was free from complications, which shows the great advantage of this treatment. The ordinary duration of the disease, when treated in the usual manner, is from 1½ to 3½ months; even by prussic acid, or the application of nitrate of silver, the average given is from two to three weeks. It is stated by Dr. Gibb that, with the use of nitric acid, the average duration was only six or seven days. Several physicians who have used this remedy, however, do not find such favorable results from its use.

I have added to my communication some extracts from the experience of a few distinguished medical men on the use of this important agent, belladonna.

This remedy was used in hooping cough about the year 1783 by Dr. Buckhaave, of Copenhagen, who gave the powdered root in doses of two grains, morning and evening, to a child of five or six years of age. The cure, it is stated, was generally accomplished in from seven to fourteen days.*

*Dr. Duncan's Commentaries for 1793, and Dr. Gibb on Pertussis, p. 282, 1854.

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Dr. Miquel, (of Neuerhaus,) says the belladonna is a remedy upon which he can always depend in this disease. In the course of many epidemics which he has observed during fifteen years, he has constantly cured the cough in eight days.*

Dr. Samuel Jackson, of this city, late of Northumberland, who although he was not the first to employ the belladonna, yet by his valuable publication in 1834 brought its virtues prominently before the medical public, has continued its use for twenty years, and his confidence in its powers to arrest the paroxysm and cure the second stage of hooping cough in the great majority of cases is undiminished.

Dr. Hiram Corson, formerly President of the Medical Society of the State of Pennsylvania, a distinguished practitioner of Montgomery county, Pa., in a paper on the efficacy of belladonna as a remedy in Pertussis, published in the Amer. Jour. of Med. Science, for Oct. 1852, makes the following observations: "My experience in pertussis had satisfied me that of all the remedies in common use, those recommended by writers upon diseases of children are almost useless. Children affected in the winter continued to cough and strangle and suffer for many weeks with scarcely a perceptible amendment. It was painful to visit and mortifying to prescribe for those afflicted with this malady."

He commenced the use of belladonna in four cases, and in one week they were all well. His method of using it was to begin with the sixteenth of a grain to children under one year every two hours, and increasing a little every day until full dilatation of the pupil occurred, the skin became flushed and vision confused; this he accomplished by dissolving eight grains of the extract in an ounce of water, nine drops of which contained the eighth of a grain.

In an epidemic in 1840, he used the belladonna in hundreds of cases with great relief in nearly all. By giving it in small doses at first, the fears of the patients were allayed. In 1847–8 he also prescribed it in numerous cases with much success. He concludes his paper in these words: "During the last seventeen years, I have given the extract of belladonna to hundreds of patients from two months to fifty years of age, and am firmly

*Vol. vii. Amer. Jour. Med. Sciences, p. 524, from Archives Generales, August, 1830.

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convinced that it has a greater control over hooping cough than any other remedy in common use. That while, in a few cases, the system did not seem susceptible to its action in the doses I have prescribed, yet in nearly all the disease yielded quickly. It is a safe and efficient remedy for pertussis in children of any age.

Dr. Eberle, in his Treatise on the Diseases of Children, second edition, remarks "that the belladonna has been highly celebrated, and is without doubt, by far, the best article of the kind we possess. My own experience leads me to testify confidently on this point. I have prescribed it within the last six years, (1834,) in perhaps twenty cases, and in the majority of them with evident advantage." Professor Borda, he remarks, was the first he believed who used it as a remedy, and his belief in its efficacy is almost unlimited.

Hufeland and Alibert are almost equally decided in their praise of the virtues of this article.

The mortality from this disease in our city in 1850 was 114, 1852, 168; and for 1853, was 64. In 1853, in the district of Richmond it occurred as an epidemic. In severe cases, Dr. Janvier used the belladonna with the best results. "It mitigates the paroxysms better than any other sedative."*

Dr. Condie remarks in his work on diseases of children, that the narcotic from which the greatest amount of benefit is to be anticipated in this disease, is unquestionably the belladonna; it has been very extensively employed, and the evidence in its favor is strong and conclusive, (by Kahleiss, Janin, Hufeland, Widemann, Raisin, Guibert, Alibert, Shäfer, Laennec, Müller, Blache, Maunsell and Lombard.)

He further remarks that he had given the belladonna a very fair trial, and has, in many cases, been pleased with the prompt and decided relief produced by it, while in other instances it appeared to exert no influence whatever."

I think that this last remark may be often accounted for by the bad character of the belladonna, which is even found in some of the drug stores of this city, for it is an uncertain preparation unless when procured by evaporation in vacuo, for some samples from some of the Parisian shops were found by Orfila to be quite inert.

*Report Phila. County Med. Society, for 1853.

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Dr. Williams, of London, has used belladonna with great advantage in his practice. He gives it in quarter-grain doses to a child of two years, increasing the dose to double that quantity or more, where it fails to relieve. He remarks that these doses, in general, cause some dilatation of the pupil, and conceives that the remedial agency of the drug depends on the same power to diminish irritability of the bronchial and laryngeal muscles which is here evinced with regard to the iris."*

Dr. G. A. Rees has found belladonna one of the most efficacious remedies in Pertussis.†

Dr. Waller cured two cases with the twelfth of a grain of extract, three times a day; prussic acid and conium had failed in affording any permanent relief.‡

Aberle assigns the highest place among narcotics to be belladonna in hooping cough.

Dr. Churchill says that this is perhaps the most influential narcotic and sedative we possess (in pertussis); it has been very extensively employed and the evidence in its favor is very strong.§

Belladonna has been eminently useful in the epidemics of hooping cough which M. Debreyne has observed, but recourse should not be had to it until the inflammatory element has been overcome by leeches, emetics, &c.

Dr. A. T. Thompson says, I have ordered the extract of belladonna in doses of one-eighth of a grain to a child of eight years, and gradually increased the dose to a quarter of a grain. Its power over the cough is extraordinary.‖

I might bring forward the testimony of many other writers, and a mass of evidence from medical practitioners, to establish still more firmly the fact of the efficacy of belladonna in this peculiar malady, but it will not, I trust, be necessary.

I will now endeavor to give an epitome of the experience of the best writers in the treatment of hooping cough by means of other agents.

The first of these which I will notice is *alum*, which has been

*Gibb on hooping cough, p. 284, from Medical Gazette, Feb. 1838.
†Diseases of Children, 2d edition, 1844.
‡Lancet, vol. 1, 1845, p. 137.
§Elements of Materia Medica.
‖London Jour. of Med., April, 1850.

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very highly recommended by Dr. Golding Bird; it has been employed with success by Dr. John F. Meigs, of this city, who speaks of it as follows, in his useful work on the diseases of children: "From reading Dr. Bird's remarks on alum, and prompted by my knowledge of its admirable qualities in the treatment of croup, I was led to make trial of it in the disease under consideration, and I believe I may say that it has exerted a more decided influence in moderating the violence of the disorder than any that I have ever made use of. I have administered it in fifteen cases, beginning in the course of the second stage.

In all it was beneficial, and in some the effects were strikingly useful, the improvement being more rapid than I had ever seen to result from other remedies." Dr. Bird gives from two to six grains every four hours. His formula is as follows: ℞. *Aluminis*, gr. xxiv; Ext. Conii,* gr. xii; Syrup Rhœados, ʒii; Aquæ Aneth. f.ʒiij. ℿ. Give a medium-sized spoonful every six hours. Dr. Meigs gives it in smaller doses, and without the Ext. Conii. To children under one year, half a grain to a grain three or four times a day; and to those over that age, two grains every six hours.

Dr. Crossly Hall, an English physician, employs the *alum* in powder, prescribed in a little water eight times a day, and he considers it a very useful remedy.

Dr. Davis highly extols the efficacy of alum in pertussis. In the late edition of Underwood's Treatise, edited by him, he says, "After a long trial, I am disposed to attach more importance to *alum*, as a remedy in hooping cough, than to any other form of tonic or antispasmodic. I have often been surprised at the speed with which it arrests the severe spasmodic fits of coughing; it seems equally applicable to all ages, and almost to all conditions of the patient. The dose for an infant is two grains three times a day; and to older children four, five and up to ten grains may be given mixed with syrup and water."

I have employed *alum* both in the case of my patients and my own children, and gave it freely; it moderated the *intensity* of the disease, but it did not in my hands make a cure, so that,

*This is considered by Dr. Butter as *the* remedy, namely conium, for hooping cough, and he eulogizes its use.

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after its use, for ten days, I had to resort to the belladonna, which in a week completely checked the hoop.

Another agent which has been very highly lauded is the hydrocyanic acid, which is considered by Dr. Thompson, of London, to possess a "specific power" over the disease.

Dr. West, of London, author of a valuable treatise on the diseases of childhood, says, "that the acid sometimes exerts an almost magical influence on the cough, diminishing the frequency and severity of its paroxysms almost immediately, while, in other cases, it seems perfectly inert; and again in others, without at all diminishing the severity of the cough, it exerts its peculiar poisonous action on the system so as to render its discontinuance advisable."

He recommends it to be given by itself, diffused in a little distilled water, sweetened with simple syrup, and the dose he begins with is half a minim every six hours for a child nine months old. He has never but once, however, seen really alarming symptoms follow its use, though he has employed it in many hundred cases; still he remarks that although the severity of the cough may be relieved by the acid, it does not enable the practitioner to dispense with other remedies.

Dr. Hamilton Roe, in his treatise on hooping cough, gives to an infant three quarters of a minim of hydrocyanic acid, Scheele's strength, gradually increasing it to a minim, which is administered every four hours; for a child of three years of age one minim, gradually increasing, if necessary, to a minim and a half every four hours. Dr. Roe says he is convinced, from the result of all the trials he has made, that this drug will cure almost any case of simple hooping cough in a short time. Dr. Edwin Atlee first used it in 1824, and from that year until March, 1832, he says he has treated more than two hundred patients, and never failed to cure in from four to ten days.*

This medicine is highly recommended by Muhrbeck, Kahleiss, Volk, Heller, Granville, Lombard, &c. I have tried this acid, but it did not at all please me in its effects.

Another remedy which demands our notice is the precipitated subcarbonate of iron, (ferri sesquioxidium.) The following

*Amer. Jour. Med. Sci. vol. vii. and vol. x.

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observations on its use are by Dr. H. C. Lombard, of Geneva, who, after praising the virtues of assafœtida, flowers of zinc, opium, prussic acid and belladonna, says, "I come now to my specific, or rather to the remedy advised by Dr. Steyman, as the best antispasmodic in hooping cough. Dr. Steyman had advised to give from four to ten grains of subcarbonate of iron in the twenty four hours, he gave as a rule to increase one grain for each year, so that a child six years old was to take six grains in a day, but from the beginning I found the dose quite inadequate, and I increased it to twenty-four and thirty-six grains in young children. I have given it either with water and syrup or mixed with a cough mixture. It has never produced any inconvenience. On the contrary, I have found that all the children treated after this method were much less weakened, and recovered faster than with all other remedies. The proofs of the advantageous effects of it have been so numerous that I can scarcely enter into the detail; however, I may give a few facts to corroborate my assertion. In a child four years old I gave the subcarbonate of iron, and the fits, which in the preceding week, had been 101 in number, were reduced to 66 in the following week. In a weak and debilitated boy, aged seven years, the powder of belladonna had proved quite useless, when I tried the powder of iron, so prompt was the effect that in a few days the boy was quite cured; the sister of this boy was also cured with great rapidity. The last case of hooping cough which I have treated lately was of four months duration, and every thing had proved useless, when I gave the iron powder, which in the space of a few days succeeded in making the cough less and less.

In fact, I think I may assert with security, that the subcarbonate of iron enjoys a remarkable property to make the fits less violent, to diminish the number, and after a certain number of days to cure entirely the hooping cough.

It enjoys, besides, the advantage of strengthening the little patients, and gives them force to resist a complaint which sometimes lasts some weeks, and generally leaves the patients weak, low and exhausted. In some of those who have taken it, I have often seen, during the first days, a temporary increase of the cough, but it always subsided after two or three days, and did not prevent the good effects of the medicine. The good effects

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obtained by the use of the iron powder are easily explained by its antiperiodic and antineuralgic properties, and it shows a posteriori how much the hooping cough resembles a true neuralgia, or, at all events, a true nervous disease."

I have not tried this remedy, and can, therefore, give no opinion of its efficacy; but should judge from its tonic and blood-restoring properties, that it would prove a useful agent in low anemic or debilitated cases.

Garlic is a remedy very highly recommended by Dr. Dewees; indeed, he states in his work on Diseases of Children, "that he has never employed any remedy of equal efficacy."

A child of six or seven years may begin by taking a third of a common sized clove, morning, noon and evening, in the absence of all febrile excitement, gradually increasing the dose.

Mr. Sutcliff combined the Peruvian bark with cantharides, and administered it with great success in hooping cough during twenty years.

The following is his formula:

℞. Tinct. Cort. Peruv. f. ℥vi.
Elix. Paregor. ℥ss.
Tinct. Canthar. ℥i. M.

℉ Of this mixture, small doses were given three or four times a day, gradually increasing until a slight strangury was excited, then the dose was to be diminished.

When the active symptoms have subsided, Dr. Beatty, of Dublin, used the same remedy, and it is also recommended by Dr. Graves. The following is his formula:

℞. Tinct. Cinch. C. ℥v.
" Lytta,
" Camphora, *aa.* ℥ss.

M. S. A teaspoonful 3 times a day in flaxseed tea or barley water.

Professor Trousseau recommends the following solution of nitrate of silver in hooping cough: one-fifth of a grain in solution with simple syrup daily.

Cauterization by nitrate of silver has also been employed as a remedy in pertussis by Dr. Eben Watson, of Glasgow. The strength of the solution is gr. xv. to the ounce of water, applied every second day, by means of whalebone tipped with sponge, at

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first to the pharynx, and then to the glottis and larynx. The whole number of cases treated by M. Joubert and Dr. Watson, in 1854, were 167.

Cured in two weeks,	96	cases,	or 57.4	per cent.
" in three or four weeks,	61	"	36.5	"
Resisted the treatment,	9	"	5.3	"
Died,	1	" or nearly	0.6	"

To prevent the irritability of the stomach, he gives frequent small doses of heavy magnesia, combined with a few grains of the tris-nitrate of bismuth. He also employs the index finger or teaspoon to make the application to the throat of children.

Nitric Acid was first recommended by Dr. Arnoldi of Montreal as a remedy in pertussis with much success, and it has been adopted by Dr. Gibb, of London, late of Canada, who has published a work on hooping-cough in which he has given the opinion of ninety-three physicians in relation to its pathology, with its history, mortality, complications and causes. He has also entered into a consideration of forty-three remedies, viz., venesection, leeches, emetics, antimonials, external applications, change of air, warm bath, hydrocyanic acid, laurel water, belladonna, opium, hemlock, henbane, digitalis, tobacco, arsenic, silver, iron, zinc, lead, copper, cauterization by nitrate of silver, inhalations, coffee, Peruvian bark, quinine, hydrochloric acid, sulphuric acid, nitric acid, cochineal, alum, tannin, vegetable acids, alkalies, vaccination, cantharides, musk, assafœtida, meadow narcissus, cup moss, castor, nux vomica, and miscellaneous remedies. He remarks that the nitric acid has succeeded over and over again when other means have failed, and it is not such a hazardous remedy, when administered with ordinary precaution, as many described by him in his work. Dr. Arnoldi's method of prescribing the acid is as follows:

"To a tumbler full of very sweet water (almost syrup) add as much acid as will bring the water to the strength of pure lemon juice, when it is ready for use; an adult may consume this quantity in three or four hours, a child one year old may take a desert spoonful every hour."

"He has remarked that the efficacy depends on the amount taken, and that especially by the frequency of repetition, to save the teeth, he advises a solution of carbonate of soda, two

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drachms to eight ounces of water to be used as a gargle immediately after taking the acid."

"The object entertained by Dr. Arnoldi, in using this acid as a remedy, was to introduce the elements of the atmosphere into the blood by the process of gastric digestion, so as to enable the lungs to outstand the stage of temporary asphyxia. Whether the theory be correct or not, the result, he says, of his practice has been almost universally successful." He then goes on to give the outlines of twelve cases which were treated by Dr. A. with success. The doctor met with a few cases where the disease seemed to resist the action of the acid, owing, he remarks, to "spinal torpor at the track of the eighth pair and phrenic. In these the application of an ointment of the biniodide of mercury, so as to produce the specific eruption, and this reproduced a second and a third time, completely restored the efficacy of the acid."

"Dr. Gibb's own cases were sixty-four in number, which are reported as cured; he combines the acid with honey or syrup and compound tincture of cardamom, &c."

Chloroform has been employed by Dr. Fleetwood Churchill, as a specific remedy in hooping cough in four cases which he reports; in two of these the hoop ceased in two days; in the third case it required its use for three weeks; in his fourth case the patient had to resort to the use of Prussic acid to complete the cure.

"In the case of young children he drops thirty drops on the palm of the hand, the mother to hold this before the mouth and nose of the child sufficiently near to inhale it fully, but not so close as to exclude a portion of atmospheric air. The best time to begin is just as the patient feels the irritation in the chest increased to a cough.

Still he considers it more suitable for young persons of twelve or fourteen years old and upward. Two successful cases have come under my notice; the method was by placing a small portion of chloroform in a vial, and when feeling the inclination to cough, to inhale by removing the cork, the small bottle being carried in the pocket."

Before concluding my remarks upon the treatment of this disease, I must not neglect to state the great importance attached by some authorities to a change of air in the last stage,

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or the debility which results from it. Dr. Lombard remarks, that "in many cases which had baffled all attempts to stop the cough, a change of air has accomplished the cure. I have found it equally indifferent to go out of town or to come into town, provided there be a change; and even in the short distance of half a mile, I have seen the good effects of this plan of treatment." Dr. West, of London, says, that change of air with the use of alum during the last stage, generally expedites the cure." According to Dr. Gregory, change of air after severe and protracted cases is the only thing that will give the patient a chance of recovery.

Billard states "that goat's milk, pure or diluted, a good nurse, a residence in the country, particularly in the spring and summer, will materially conduce to the recovery of infants at the breast."

But nothing can be more pernicious than the exposure of children suffering from hooping cough, to cold or inclement weather, for it will bring back the cough and cause inflammation of the lungs.

Case of Wound of the Throat, in a Maniac, in which the Epiglottis was nearly severed. Recovery. By GEORGE DOCK, M. D., Harrisburg, Pa.

On the morning of the 30th of Nov. 1853, I was summoned to the Pennsylvania State Lunatic Hospital in great haste, one of the inmates, Mr. S——, having cut his throat whilst alone in the water closet adjoining his room. Upon entering his room I found a man, about sixty years of age, lying upon the floor, in a pool of blood, with his throat cut literally from ear to ear. Life was apparently extinct; no pulse at the wrist, skin cold and bedewed with a death-like moisture; eyes set and filmy; teeth clenched and no respiratory movement of the chest. For a moment I supposed him dead. Placing my ear upon his naked chest, I however detected a faint pulsation of the heart and a feeble, smothered, respiratory whisper. I immediately had several of the attendants to apply vigorous friction to his extremities; sinapisms were laid to the calves of his legs and to his arms, whilst I proceeded to ligate the—yet oozing—superior thyroidal and lingual arteries, from which, with the external jugulars, he

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had lost his blood, until from prostration he could bleed but little more.

Taking the opportunity of examining his wound more deliberately, I found he had cut between the thyroid cartilage and hyoid bone, severing the latter, with the tongue, from their attachments, the wound making a clean gap into the pharynx, about two inches wide: (the larynx being drawn down by the sterno-thyroid muscles that distance from the retracted hyoid bone.) I also discovered, after sponging out the clotted blood, that the epiglottis was cut, at its base, almost completely off; hanging but by a little cord on each side. To have thus left it would have been fatal. Of the expediency of putting a ligature into it, I, on the other hand, was somewhat in doubt. Concluding it to be the least of two evils, I armed a delicate, very sharp, curved needle with a fine silk thread, and proceeded in the following manner: I entered the needle at the centre of the base of the stump, only penetrating it about two-thirds of its thickness, then brought out the point of my needle on the top face of the wound, entered it on the corresponding face of the loose piece of the epiglottis, bringing the point of the needle out on its anterior face, about a line from the cut end, and drew the parts into neat and perfect apposition by tying the ligature, the ends of which I clipped close, trusting to the removal of them during the suppurative stage of the whole wound. Then came the larynx to be drawn up to its place and there retained. To accomplish this, I armed another needle with saddler's silk, pierced a fold of the cellular tissue and muscle on its sides—first one, then the other side; then carried the needle over a corresponding point of the hyoid bone, making it the tackle of my pulley, and with this loop I drew the root of the tongue, &c., and the larynx close together, tied my knot and cut off one end of each of these ligatures, bringing the other ends out with those from the arteries. Four interrupted sutures were then put into the integuments, and the wound was dressed in the ordinary manner. During all this time, my labors appeared to be spent upon a man in articulo mortis, yet still I determined to persevere.

I ordered a stiff, hot brandy toddy to be prepared and a stomach tube brought to me. But his jaws were so firmly set as to render it impossible to separate them by manual force; so I

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took a large gum catheter and introduced it through his nose, as far down the œsophagus as it would reach, then took a small syringe, adjusted it to the catheter, and injected the toddy into him. This, in a short time, with warm, stimulating applications to his limbs, brought on reaction, which I *coaxed* on gently, feeling my way so as not to overdo the thing. I had the pleasure, before leaving him, to see him breathing nicely through the natural apertures, the pulse becoming quite perceptible at the wrists, and his surface restored to a moderate degree of warmth.

He gradually recovered, being fed on nutritious liquids by the tube; the wound granulated well, and in a couple of months he was sent home perfectly sound; his voice natural and strong, and his mind restored to a state of sanity.

Remarks.—The above case I think is one possessing several points of interest to the profession. The wound was an unusually extensive one; the hæmorrhage profuse, and his condition altogether unpromising. A wound of the epiglottis to such an extent is rare to recover from; and here let me call your attention to the fact, that, from the day of the injury until he recovered he had no spasmodic cough, and there took place perfect union in the epiglottis. You will also observe that in passing my ligature I did not penetrate the entire thickness of the epiglottis, so that the mucous membrane on the glottal face was left intact, to which circumstance, I think, was due, in a great degree, the absence of all irritation and cough. This was my object and idea at the time I did it, and if an erroneous one, I fortunately erred on the safe side.

To Dr. Curwen, the superintendent of the Hospital, and Dr. Dewitt, his assistant, much credit is due for their unceasing attention and kindly care to the patient during the progress of his convalescence.

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Mortality of Philadelphia for April, May and June, 1855; *collated from the Health Office Record.* By WILSON JEWELL, M. D.

Within the quarter of the year ending June 30th, including a period of ninety days, there were 2374 deaths returned to the Health Office, averaging 26 per day. This number is less by ninety-five than was returned for the same period in 1854. Thus far, according to the tabular statement of deaths for the first six months, the city has enjoyed a greater degree of health than during the first half of last year; the mortality constituting the evidence.

The deaths from recorded diseases alone, have amounted to 1922. The remaining deaths, in all 452, are charged to external causes, old age, still-born, debility and unknown.

The excess of deaths in the male sex, amounts to 6.68 per cent. The males number 1268; the females 1106.

The deaths within the first year of life, not including the still-born, amounted to 512. Within the fifth year 920. Within the tenth year 1031, and within the twentieth 1129. According to these statistics, it appears that 32.62 per cent. of the mortality of our population, took place within the first decade of life, and 33.58 per cent. within the second. These calculations exclude still-born children, which amounted to one hundred and fifty.

The greatest mortality during the quarter, has been from those diseases of an inflammatory type, arranged under the head of Organs of Respiration, amounting to 624; five sevenths of which, or 543 are charged to Consumption of the Lungs, Inflammation of the Lungs and Inflammation of the Bronchia.

The deaths from Consumption of the Lungs, Still born, and Inflammation of the Lungs, each of which exceed one hundred, together with Debility which wants one of making one hundred, in the aggregate 868, constitute more than one third, or 43.36 per cent. of all the deaths for the quarter.

The decrease in the deaths from bowel complaints, at this season of the year, when compared with those in the second or like quarter of last year, presents a sensible difference. Last year in the second quarter the deaths from Cholera, Cholera Morbus, Cholera Infantum, Diarrhœa and Dysentery, amounted

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to 173; whereas, the second quarter of the present year furnishes only 78—less 38.33 per cent.

The deaths from Small Pox, show a large increase over those for the same quarter of 1854; equal to 52.94 per cent. For the first half of the present year they have amounted to 93; more than double the number recorded for the whole of 1854.

Hooping Cough presents a considerable falling off. Last year the second quarter gave 45; this year 10; a diminution of three fourths.

The deaths from Measles likewise have declined 55 per cent. when compared with those for the same quarter of last year.

The deaths from Epidemic diseases exhibit a falling off of 15.80 per cent. contrasted with those of similar months in 1854.

The deaths from Still Born have increased 8.80 per cent. over those for the same months in last year.

Three of the deaths during the quarter were Centennarians, one of whom had reached her 115th year.

The Alms-house and the colored population yielded each about 8 per cent. of the deaths for the quarter.

On the whole, therefore, it may be safely inferred that the past six months have been more than usually healthy.

TABLE NO. I.

Deaths for the second quarter of 1855 *classified.*

				Male.			Female.			
	Ap.	May	June	A.	M.	J.	A.	M.	J.	Total.
1 *Endemic & Contagious diseases* Zymotic or Epidemic	113	130	124	50	69	69	63	61	55	367
2 *Uncertain or general seat,* Sporadic diseases	102	120	89	51	69	50	51	51	39	311
3 Nervous system	149	167	146	82	90	77	67	77	69	462
4 Organs of Respiration	222	271	131	111	143	73	111	128	58	624
5 " Circulation	16	32	30	9	22	13	7	10	17	78
6 Digestive organs	41	53	43	20	27	19	21	26	24	137
7 Urinary "	6	2	6	3	1	5	3	1	1	14
8 Organs of Generation	4	7	4		1		4	6	4	15
9 " Locomotion		3	2		1	1		2	1	5
10 Integumentary system	3	1	4	1	1	2	2		2	8
11 Old age	17	20	10	7	9	3	10	11	7	47
12 External causes	37	33	28	26	25	27	11	8	1	98
Still Born	42	48	60	27	24	33	15	24	27	150
Unknown	18	22	18	11	9	7	7	13	11	58
	770	909	695	398	491	379	372	418	316	2374

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TABLE NO. 2.

1. *Endemic and Contagious Diseases—Zymotic or Epidemic.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cholera infantum	13	6	14	3	2													19
" morbus	4	3	1						1	1	1	1	1	1				7
Croup	30	21	5	16	28	2												51
Diarrhœa	13	12	6	4					2		2	4	2	3		2		25
Dysentery	13	14	4	4	2				3	7	3	1	2	1				27
Erysipelas	14	15	13	2	1				2		4	2	1	2	2			29
Fever,	1	1		2														2
" Bilious	6	6		1	1				2	1		3		4				12
" Congestive		1										1						1
" Intermittent		1		1														1
" Puerperal		20						1	16	2	1							20
" Remittent	2	3	1	1	1				1	1								5
" Scarlet	18	17	4	8	16	6	1											35
" Typhoid	21	18			3	4	2	5	6	5	7	3	3	1				39
" Typhus	8	5						1	6	1	3	2						13
Hooping Cough	8	2	8	2														10
Influenza	1	2									1		1	1				3
Measles	4	5	4		5													9
Small Pox	30	22	10	10	16	6	2	1	5	2								52
Syphilis		1		1														1
" secondary		1							1									1
Varioloid	2	3	1		3	1												5
	188	179	71	55	8	19	5	18	45	20	22	17	10	13	2	2		367

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2. Uncertain or General Seat—Sporadic Diseases.

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess	2	1	1		1			1										3
" Breast		1								1								1
" Lumbar		1				1												1
" Psoas		1											1					1
" Thigh	1										1							1
Atrophy	1	3	3		1													4
Cachexia	1		1															1
Cancer	4	1								1		2	1	1				5
" Breast		3								2				1				3
" Face	1													1				1
Cyanosis	6	4	9	1														10
Debility	53	46	38		1	1		1	2	9	7	11	11	10	6	2		99
Dropsy	15	14			1	1			4	2	2	6	7	3	2	1		29
Gangrene	1	1			1						1							2
Hemorrhage	4		1						1	1						1		4
Inflammation	1	1			1	1												2
Inanition	13	10	17	2						1	1	2						23
Inflammation of Throat	1	3	2							1				1				4
Malformation	7	3	10															10
Marasmus	40	32	46	8	10	1			1	3				1	2			72
Mortification	2	2									1	1	1	1				4
Scrofula	8	6	3	1	1	4	1	2	1	1								14
Schirrhus		1										1						1
Tumour of Abdomen		2								1		1						2
Tabes Mesenterica	5	3	2	2	1	1				1	1							8
Ulcer	1											1						1
Ulcer of Throat	3	2	1		1	3												5
	170	141	134	14	19	13	1	4	9	24	14	25	21	19	10	4		311

3. Nervous Diseases.

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Apoplexy	17	18							2	9	4	2	9	6	3			35
Concussion of Brain	1										1							1
Congestion "	24	10	9	6	3	6	1		2		4	2		1				34
Compression "	2								1			1						2
Convulsions	81	70	99	20	20	6	1	1	1	1	2							151
Disease of Brain	16	9	11	3	1	1	2		2	3	1	1						25
Dropsy "	28	27	20	16	10	5	1			1			1	1				55
Effusion "	5	9	1	1	6	3	1		1		1							14
Epilepsy	3	4	1	1						1	1	2	1					7
Inflammation of Brain	38	40	21	15	18	13	1	2		5	1	1		1				78
Insanity		1										1						1
Mania	5	3							1	3	1	3						8
" a Potu	4	1							1		4							5
Palsy	17	16		1			3		2	3	2	3	6	7	6			33
Softening of Brain	3	3			1	1						1	2	1				6
Tetanus	2	3			1			3	12									5
Trismus	2		2															2
	248	214	164	63	60	35	10	6	14	26	22	17	19	17	9			462

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4. *Organs of Respiration.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess of Lungs	2	3	1			1			1	1	1							5
Asthma	1	4	2	1							1	1						5
Congestion of Lungs	12	7	4	2					2	1	2	2	2	4				19
Consumption "	167	164	13	3	8	6	6	25	102	62	50	25	20	7	4			331
Disease of "		10	2	2	2					2	1		1					10
Dropsy of Chest	9	6		3	2	1					3	1	1	3	1			15
Effusion of Lungs	2	3							1	1		1	1	1				5
Gangrene "		1								1								1
Hemorrhage of Lungs	5								2	1	1	1						5
Inflamm'n of Bronchiæ	46	29	35	14	6	7		1	2	2	1	2	1	3	1			75
" Lungs	75	62	29	19	11	6	2	3	14	17	10	12	8	3	3			137
" Larynx	3	3	1	2	2				1									6
" Pleura	5	3		1	1			1	1		1	1	2					8
" Trachea		1			1													1
" Tonsils		1		1														1
	327	297	87	48	33	21	8	30	126	88	71	46	36	21	9			624

5. *Organs of Circulation.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Anæmia	3	2	2			2						1						5
Aneurism	1										1							1
Angina Pectoris		1									1							1
Disease of Heart	24	26	2		1	4	3	6	8	3	4	10	4	4	1			50
Dropsy "	5				1	1				1		1		1				5
Effusion "		1												1				1
Enlargem't "	6	3					1		4	3		1						9
Inflammat'n "	4							1	2		1							4
Rupture of Aorta		1										1						1
" Heart	1									1								1
	44	34	4		2	7	4	7	14	8	7	14	4	6	1			78

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6. *Digestive Organs.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess of Liver	1										1							1
Aphthæ	1		1															1
Cancer of Bowels		1										1						1
" Liver		1									1							1
" Stomach	1	2											2	1				3
" Rectum		1									1							1
Cancrum Oris	2			1	1													2
Cirrhosis of Liver	3								1		1	1						3
Congestion of "	2								1				1					2
Consumption of Bowels		2				1							1					2
Colic	1	1							1			1						2
Disease of Bowels	2	4	1	1	1				1	2				1				6
" Liver	5	3	1							2	3	1	1					8
" Stomach		1									1							1
Dyspepsia	1											1						1
Dropsy of Abdomen	3	4					1		1	1	1	3						7
Hemorrhage Umbilicus	1	1	2															2
Hernia Strangulated	1	1								1				1				2
Inflammation of Bowels	15	10	7	3	2	1		1	4	1	4	1		1				25
" Colon		1		1														1
" Liver	4	5	1							2		1	3		2			9
" Peritoneum	5	12	1		1	1	1	1	3	1	2	4	1		1			17
" Stomach	1	5	1							1	1		2	1				6
" Stom. & Bowels	9	2	4	1		1			1		2		1	1				11
" Spleen	1					1												1
Intussusception	1	2	1						1					1				3
Jaundice		2											1	1				2
Mortification of Bowels	1		1															1
Obstruction "	1	2							1	1	1							3
Stricture of Rectum	1							1										1
Teething		3	1	1	1													3
Ulceration of Bowels		2							1					1				2
" Stomach	2				1					1								2
Worms	1	3	1	1	2													4
	66	71	23	8	9	5	2	3	16	13	19	14	13	9	3			137

7. *Urinary Organs.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Albuminuria	3								1		2							3
Cancer of Bladder		1										1						1
" Kidneys		1													1			1
Diabetes	1									1								1
Disease of Kidneys	1	1							2									2
Inflamed Bladder	1	1							1	1								2
" Kidneys		1									1							1
Rupture of Bladder	1											1						1
Stone in "	1												1					1
Uræmia	1													1				1
	9	5							4	2	3	2	1	1	1			14

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8. *Organs of Generation.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cancer of Uterus		5								1	1	2		1				5
Disease of Prostate Gland	1													1				1
" Uterus		1											1					1
Dropsy of Ovaries		1											1					1
Hemorrhage of Uterus		3							1	1	1							3
Inflammation "		2						1	1									2
Phlegmasia Dolens		1							1									1
Puerperal Convulsions		1							1									1
	1	14		1				1	4	2	2	2	2	2				15

9. *Organs of Locomotion.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Inflammation of Spine	1				1													1
Rheumatism	1	2							1		1	1						3
Spina Bifida		1	1															1
	2	3	1		1				1		1	1						5

10. *Integumentary System.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	110 to 120.	Total.
Disease of Skin		1		1															1
Purpura Hemorrhagica	3	2	3		1				1										5
Rupia	1				1														1
Scurvy	1									1									1
	5	3	3	1	2				1	1									8

11. *Old Age.*

Old Age	19	28										6	16	21	1	2	1		47

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12. *External Causes.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Asphyxia	3	3	4							1	1							6
Burns	4	5		3	3	1	1		1									9
Casualties	19	3		2		2	2	2	4	5	1	2	1	1				22
Drowned	33	1			1	7	2	2	2	7	9	3	1					34
Excessive Heat	1										1							1
Fracture	1								1									1
Exhaustion		1												1				1
Intemperance	9	4							3	5	2	1	1	1				13
Strangulation		1										1						1
Suffocation	3	1	1		1	1			1									4
Suicide	5								1			3		1				5
Violence		1							1									1
	78	20	5	5	5	11	5	4	14	18	14	10	3	4				98
Still Born	84	66																150
Unknown	27	31	20	2	3				6	8	7	3	3	6				58

TABLE NO. 3.

Deaths for the Second Quarter of 1855, *at sixteen distinct periods of life.*

Under 1 year,	512
1 to 2	196
2 to 5	212
5 to 10	111
10 to 15	35
15 to 20	63
20 to 30	254
30 to 40	210
40 to 50	182
50 to 60	151
60 to 70	118
70 to 80	114
80 to 90	56
90 to 100	7
100 to 110	2
110 to 120	1
	2224
Still Born	150
Total,	2374

Embraced within the above table were 190 from the Blockley Alms House; 172 Blacks, and 24 from the country, as follows:

	April,	May.	June.	Total.
Almshouse,	65	73	52	190
Blacks,	70	61	41	172
Country,	5	8	11	24
Total,				386

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BIBLIOGRAPHICAL NOTICES.

A Monograph on Mental Unsoundness. By FRANCIS WHARTON. Philadelphia: Kay and Brother. 1855.

The analytical table which Mr. Wharton has prefixed to this work is admirably arranged. It shows the reader, at a glance, the manner in which this difficult subject is to be discussed, the relation of each part to the other, of each part to the whole, and greatly enhances the value of the work to the student, and as a book of reference.

The work is divided into two chapters; the first treats of "Mental Unsoundness in its legal relations," in which the law as it now exists in this country is fully laid down under four heads, viz:

I. What degree of unsoundness invalidates a contract or will.

II. What is necessary to be proved in order to deprive a party of the management of his estate.

III. What degree of unsoundness avoids responsibility for crime.

IV. How far intoxication affects responsibility for crime.

When our statutes, or the decisions of our courts, are at variance with the English law, the fact is noticed, and great labor has been given by Mr. Wharton to prove by citation of authorities that his view of the common law is correct.

We fully agree with him as to the great care and delicacy, with which the question of setting aside the will of the aged or partially deranged should be approached. After quoting from De Boismont to the effect that a person should not be deprived of liberty and the right to make a will on account of whimsical actions or words, the result of an erroneous belief, he says:

"Nor should it be forgotten that the effects of such incapacitation would be most cruel to the sufferer himself. Society is prone enough to make eccentricities and weaknesses the subject of contempt, ridicule or insult. The courts should be cautious how, by taking away the power to ensure respect, they thus increase the misfortune of a class into which no man can assure himself he may not fall—which includes almost the whole of those whose lot it is to reach extreme old age—and which already carries a burden sufficiently heavy. If such persons cannot reward by their bounty those by whom they are treated with tenderness, and by whose means their comfort is guarded, they will lose, in most instances, the only means remaining to them of self preservation. The law which thus deprives them of their own means of self support, should

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tender them in return a refuge by which, by public sanction, they could exact that attention which their own influence no longer enables them to secure. This, however, is certainly not done now, nor could it be done on any intelligible basis, without consigning a large proportion of the most efficient members of society to an asylum. As society at present stands, the only remedy seems to be to throw the same tender guardianship around the feeble minded and the eccentric, as in a passage already cited has been so touchingly invoked by Chancellor Kent for the old."

The question of how Intoxication affects responsibility for crime is one of great importance. Mr. Wharton has handled it very ably. The law, he says, may be summed up as follows:

"1st. Insanity, produced by *delirium tremens*, affects responsibility in the same way, as insanity produced by any other cause.

2d. Insanity, immediately produced by intoxication, does not destroy responsibility, if the patient, when sane and responsible, makes himself intoxicated.

3d. While drunkenness *per se* is no defence to the *fact* of guilt, yet when the question of *intent* or *premeditation* is concerned, it becomes a material item of consideration."

In the second chapter, under the head of "Mental Unsoundness considered psychologically," he treats of the points in which psychology comes in contact with the law of the land. Our limits forbid our discussing as fully as we wish Mr. Wharton's view of this interesting subject.

He states that the experience of medical experts, like that of experts in all other branches of science, is part of the law of the land; it becomes, therefore, of the greatest importance that there should be a full understanding between the legal and medical professions in any case that comes before them, and that they also should act in common.

The following reasons for the consideration and respect which should be paid to the evidence of such experts in questionable cases will be read with interest. Mr. Wharton says:

"It is not to be denied that a lay observer, or an unassisted judge or jury, may be able to distinguish a case of fully developed and clearly manifested insanity; but, aside from the necessity of a knowledge of all the particular relations existing between a given state of disease and a given act, there can be no proper foundation for the infliction of punishment in any case, where the judgment of which it is the execution is not based on the greatest attainable amount of certainty. But this certainty can be no other than that which bears the seal of technical

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science. Nor will a juryman, if properly tender of his conscience and of public opinion, base his verdict upon other evidence than that of those best able, from long training and close attention, to understand the features of the case. In some cases the difference between a scientific, or technical, opinion, and that of a layman, is not so much in the results attained, as in the guarantee afforded by the superior attainments and more minute expertness of the man of science. The declaration of such a man is insured against the possibility of error to the full extent of the protection of science in its present stage of development. *Pro foro* this degree of certainty is sufficient, because it is the highest attainable; but the same cannot be said of any other."

Monomania is considered under nine heads; we think another should have been added, viz: oinomania, or a morbid taste for liquor, which is sometimes produced by abuse of alchoholic and vinous drinks, and sometimes appears to be congenital, in either case overcoming the will and reason of the person affected, who often deplores his depraved taste, tries to resist, and for a time may, but any unusual excitement, accidentally tasting, or sometimes even the sight or smell of liquor, brings on a desire for alcoholic drinks, against which the will is powerless. Where this constitutional or acquired tendency is known to exist, it appears to us the law should make the same allowance for crime committed in a drunken fit that it now does when crime is committed by a person suffering from an attack of delirium tremens.

The 12th and last section of the 2d chapter is on the treatment of insane criminals. We entirely agree with the author as to the necessity of amending the law as proposed in the following extract, in which also are shown the evils of the present system.

"If the views taken in the preceding sections be sound,—if, in the first place, there are inherent difficulties in the way of making insanity a ground of defence on the trial of a man, who, on this hypothesis is psychologically incapable of either tendering or preparing any such issue; if, in the second place, the doctrine of instinctive or moral mania be allowed in legal theory the sweep which is asserted for it by medical experts, and which in this country at least is conceded to it by the Courts; if, in the third place, it be right that the present system of confinement of insane criminals be remodelled,—then it will become necessary for those to whom the work of legislation is committed to amend the law so as to reserve the question of insanity to be determined by a competent tribunal *after* a conviction of the fact of guilt. For the following undeniable evils result from the present system:

(a.) A tribunal of, at least, but secondary competency is charged with

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the determination of the most difficult and yet most momentous question to which human observation can be applied.*

(b.) A subject is introduced into the question of guilt or innocence, as to which no fixed judicial rules can be laid down, and which really concerns only the character and the extent of punishment.

(c.) A fearful confusion takes place between the *sane* convict; the *insane* malignant convict, who requires discipline and is, in some degree, morally responsible; the *innocent* insane convict;† and the lunatic, who is in confinement, but is not charged with crime: for all of whom there is in some jurisdictions but *one* common method of discipline provided, viz: that of the penitentiary; in others, but *two*, that of the penitentiary and of the ordinary lunatic asylum. The result of this is acquittals in some cases, when there should be convictions; convictions in other cases when there should be acquittals, and in almost all cases an erroneous system of punishment.

The remedy for these difficulties is one to which we must come sooner or later, and for which the common law has been from the beginning always striving, and yet always losing from almost its very grasp. It is to confine the inquiry before the court and jury to the mere *factum* of the commission of the offence; reserving the question of treatment to be determined by a special commission of experts, to be appointed for the purpose of examining convicts alleged to be insane. The proposition to be put by the court to the jury, under such circumstances, is not, "Was the defendant capable of judging between right and wrong," a proposition which no jury can determine, but, "Did he," as a matter of fact, "commit the specific act charged." For whether he committed it as sane or insane, the result is, if the offence in point of law be indictable, that the safety of society requires that he should be placed in

* Dr. Hood very justly remarks, "All human tribunals are fallible, and how when this plea of insanity is raised, can we unveil the mind of the accused, and determine where responsibility ends and irresponsibility begins? We may appreciate outward and visible signs, but we have no *mentometer*, (if I may be allowed to coin a word) which will indicate the thoughts that may be passing through the mind. In medical jurisprudence the diagnosis between sanity and insanity is, in many cases, infinitely difficult; and it is upon this account that specialists in this branch of our profession so often come into collision with members of the bar, and draw down upon themselves occasionally animadversions from the judges on the bench. There would be no difference of opinion between the two learned professions if we could arrive at any fixed principles by which we could explain the silent operations of the mind; but this, so far as insanity is concerned, is as impossible in law as it is in medicine. We may adjudicate upon the overt act, but the motive which dictated it will very often elude the most searching examination. But this happens continually in sane as well insane life." Suggestions for the future Provision of Criminal Lunatics, by W. C. Hood, M. D. London, 1854.

And we may add to this the testimony of a great poet on a kindred point:

> "May it please your Excellency, your thief looks
> Exactly like the rest, or rather better;
> 'Tis only at the bar *or in the dungeon*
> That wise men know your felon by his features."

† See as to distinction between these, *ante*, § 232–251.

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seclusion for such a period as will promote the joint ends of personal reformation and the preservation of the well-being of the community at large. If he be guilty without the palliation of mental infirmity, certainly the severest penal code—with the single qualification of cases of murder in the first degree,—can ask nothing more than this. If, on the other hand, he was at the time laboring under mental derangement, in no other way can the extent of his responsibility be accurately determined, and the proper degree of discipline adjusted. For this great question of sanity or insanity can really be only determined by those to whose daily and hourly care the convict is committed, and who have thus full opportunity of inquiring into his antecedent as well as his present condition. 'Thus,' to adopt the language of a late very intelligent commentator, 'except as regards the curative course to be adopted, on our view of the case, the subtle line of distinction which there have been so many abortive attempts to draw, between criminal and non-criminal lunatics is of no practical importance, and the unavailing search, unless as a matter of metaphysical speculation, may be abandoned as unnecessary. In either case, the person concerned, whether called a lunatic, a criminal lunatic, or an ordinary criminal, should be so placed as to put it out of his power to inflict further injury, and to afford the most likely means for his cure.' And thus, also, not only will the sanctions of human life and property be protected from the recurrence of those monstrous acquittals, by which, under the plea of insanity, the most dangerous criminals are suffered to run at large, but the interests of humanity will be subserved by a proper discipline, as well as a just classification, of those whose accountability is diminished or destroyed."

Mr. Wharton's work cannot fail to interest the general as well as the professional reader. His style is clear and forcible, the matter treated of affects us all more or less nearly, and is throughout illustrated by cases of thrilling interest. We warmly recommend it to our readers.

A Practical Treatise on the Diseases, Injuries, and Malformations of the Urinary Bladder, the Prostrate Gland, and the Urethra. By S. D. Gross, M.D., Professor of Surgery in the University of Louisville, &c. Second Edition, Revised and much Enlarged. Philadelphia: Blanchard & Lea. 1855.

The very flattering reception with which the first edition of the above work was received by the profession, both at home and abroad, renders it unnecessary for us to say anything of its merits. The present edition has been enriched by upwards of two hundred pages of additional matter, which are dispersed throughout in the form of chapters, sections and paragraphs, imparting

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to it somewhat of the aspect of a new treatise. It is now quite a large book, comprising more than nine hundred pages; this, however, is the less to be regretted, as the author has been enabled by its increased size to enter much more satisfactorily into the detail of the diseases and injuries of which it treats than otherwise he could have done. As it now stands, we consider it the most valuable and thoroughly complete treatise on diseases of the urinary organs in the English language. It is in every respect a work to be proud of. The vast amount of information contained in its pages, its clear and simple style, and the sound judgment which presides in all its teachings, leave nothing whatever to be desired by the reader.

The work is gotten up in excellent style by the enterprising publishers, and is embellished by one hundred and eighty four illustrations.

Mineral and Thermal Springs of the United States and Canada. By JOHN BELL, M.D., author of "Baths and Mineral Waters;" "Baths and the Water Regimen;" "Lectures on the Practice of Physic," &c. Philadelphia: Parry & M'Millan. 1855.

We need only draw the attention of our readers to the above useful and interesting little work to secure it a favorable reception. Dr. Bell, it is well known, has devoted much time and reflection to the subject of baths and mineral waters, and their effects upon the human system. The present volume, though but a small one, fully sustains the character for judgment and knowledge of his former writings. A great deal of necessary and agreeable information is contained in its pages, and it is equally well adapted to the comprehension of the general and professional reader.

"The want of a manual in which travellers for curiosity and pleasure, and invalids in quest of health, might learn where to go, how to go, and what to find in relation to the Mineral and Thermal Springs of our country has been generally felt. Physicians, too, have wished for a work to which they could refer for information respecting the physical and chemical properties and medicinal virtues of the several springs. There are, indeed, some published accounts of particular springs, and even groups of springs, as, for example, of those of New York and of

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Virginia, of which free use has been made in the following pages. But, with the exception of a work by the author issued twenty-five years ago, no attempt has hitherto been made to collect and arrange methodically the numerous separate and scattered histories and descriptions of the different mineral and thermal springs of the United States, as has been done for those of Great Britain and Ireland, of France, of Germany, and, in a more restricted manner, of Italy."

"It contains notices, more or less full, of one hundred and thirty springs and groups of springs belonging to the United States. If account were taken of each separate spring of the several groups, which is marked by distinctive properties, the number would exceed two hundred. Of those described, there are, as will be seen in the tabular view presented in the appendix, about thirty of the thermal class, a great majority of which must be quite new to most readers."

We advise travellers to our various watering places to provide themselves with a copy of the above volume, as there are very few of them who will not derive advantage from its perusal. The directions for drinking the different waters, and for bathing, are full and judicious, and may be understood by all. The book has a copious index.

A Pocket Formulary and Physician's Manual, embracing the Art of Combining and Prescribing Medicines to the Best Advantage; with many Valuable Recipes, Tables, &c. By THOMAS S. POWELL, M.D., of Sparta, Georgia. Savannah: W. Thorne Williams. 1855.

This little work is one of the best arranged of its class, and will, we are confident, be found especially adapted to the wants of the American practitioner. The author is one of the most respectable and experienced physicians of our Southern States, and is thoroughly qualified for the task of preparing a "Pocket Formulary," adapted to the occasions of the profession of our country.

Medical Lexicon, or Modern Terminology; being a Complete Vocabulary of Definitions, including all the Technical Terms employed by Writers and Teachers of Medical Science at the present day. Third Edition. By D. MEREDITH REESE, M.D., &c. New York: S. S. & W. Wood. 1855.

That this useful little work has supplied a want of students, is shown by its having reached a third edition. As a vocabulary of

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definitions, of which the briefest possible is given in every instance, it is well fitted for the purpose it is intended for—a help to students and young practitioners.

THE MEDICAL EXAMINER.

PHILADELPHIA, AUGUST, 1855.

MEDICAL NEWS.

The July number of the American Medical Monthly contains a very full and interesting report of the proceedings of the New York Academy of Medicine at their June meeting. The Committee on Dr. Green's paper on "Injection of the Bronchial tubes," after reading the minutes of their sessions, made their report, the conclusion of which is as follows:—

1st. Catheterism of the air passages dates its history from the time of Hippocrates.

2d. The best evidences of the passage of an instrument into the air passages, are the rational signs.

3d. The facility of the operation depends upon the kind of instrument used; the tube having a large curve being best, and the sponge probang least adapted to enter the trachea.

4th. That there is no reliable evidence, in the opinion of your committee, that the *sponge probang* has been passed through and beyond the vocal chords.

5th. That there is no positive evidence that an instrument can be passed at will into the right or left bronchial divisions.

6th. That in the great majority of instances where injections are supposed to have been thrown into the lungs, through a tube, they have passed directly into the stomach.

7th. That as regards the utility of injections of nitrate of silver into the lungs, the facts thus far developed, in the experiments of your committee, lead them to regard the operation as one fraught with danger, as well as difficulty.

In submitting the above Report, the committee beg leave to tender their thanks to Prof. Green, and to Isaac E. Taylor, Visiting Physician of Bellevue Hospital, who kindly aided in furnishing subjects, and in making the experiments which are appended, and which form the basis of this Report.

WILLARD PARKER, M.D., *Chairman.*
JOHN O. STONE, M.D.,
ISAAC WOOD, M.D.

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At an adjourned meeting of the Academy, held June 20th, Dr. Parker stated that since the last meeting of the Academy, the Report had been signed by Dr. Metcalfe, and thus had upon it the names of four of the committee (Parker, Wood, Stone, and Metcalfe.) He had received a note from Dr. Anderson signing the first part but not the second, "that is, the *cui bono*." Dr. Stevens was present, and would answer for himself. The note of Dr. Anderson, kindly furnished to us by the writer, is as follows:

NEW YORK, *June 14th*, 1855.

WILLARD PARKER, M.D.:

DEAR SIR:—I still entertain the opinion I expressed at the last sitting of the committee, on the paper of Dr. Horace Green; and which I also repeated to you on the following morning; that the second division* of the matter referred to the committee had not received that investigation which would enable them intelligibly to report upon it. You will please receive this as my signature to the *first* division of the Report.

With very great respect, yours,

JAMES ANDERSON.

Dr. A. H. Stevens said that he had prepared a report, and with permission would read it.

It having been urged that the minority Report of Dr. Barker should first be read, Dr. McFarland, of Williamsburgh, stated that Dr. Stevens' was a part of the majority report, and therefore ought to be first read.

The president requested Dr. Stevens to proceed.

DR. STEVENS' REPORT.

The undersigned, one of the committee appointed to report on the subject of medicated injection into the trachea, as performed by Prof. Horace Green, not having had the opportunity to witness all of the facts in relation to this subject, that have come under the notice of his colleagues, begs to submit this his separate report. He was present at two meetings only, at Prof. Green's office, and witnessed, in addition to some very skilful applications of caustic solutions to sinous passages in the fauces, repeated introductions of the sponge probang, of the hollow tube, and of nitrate of silver injections through it.

As regards the question of the possibility of the introduction of the probang into the trachea, he did not see enough to enable him to consider the practicability of such introduction as a proved fact. But of the practicability of passing a catheter into the trachea, he was confirmed in his previous belief, that it admits of no question whatsoever. It was moreover proved that the injection of a solution of nitrate of silver in quantities equal to two fluid drachms is quite practicable with ordinary skill. In two experiments performed in his presence by Prof. Green, it was not followed by alarming symptoms, or, so far as he knows, dangerous consequences; a result quite different from what *à priori* reasoning had prepared him to anticipate. If further experience

* The utility of Injections of Nitrate of Silver into the Air Passages.

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should prove its entire safety, such experience, on a very extended scale, and by numerous observers, can alone determine its therapeutic value. But those who may incline to make such experiments, will doubtless remember that a solution of two drachms of nitrate of silver, of the strength stated to have been employed, ℈jj. to ℥j. of water, would give ℈ss. of the solid caustic; enough to make an eschar through the cutis of one inch in diameter. Analogy would lead to the conclusion that so large a quantity, expending its whole force upon the tracheal, and such parts of the bronchial membrane, as it came in contact with, would be likely to induce inflammation of a grave character. The quantity of caustic actually brought into permanent contact with a stricture of the urethra is a very small fraction, probably not one-twentieth part of a grain. A stick of caustic, weighing only four or five grains, may be used daily for months, with scarcely a perceptible diminution of its bulk, even in hospital practice.

In regard to the question of the practicability of directing the solution to a particular part of the bronchial tubes, or into any cavity connected with them, at the pleasure of the operator, the reporter has seen nothing to lead him to an affirmative answer.

All which is respectfully submitted.

ALEX. H. STEVENS, of the Committee, &c.

We regret that our limits forbid our copying anything but the following from Dr. Barker's minority Report:

"Contenting myself, therefore, with the positive assertion that I have reliable evidence that the sponge probang has in many instances "been passed through and beyond the vocal chords," I deem it no part of my duty, as a member of *this* committee, to bring that evidence before the Academy. The committee were appointed "to enquire into and investigate the treatment proposed by Dr. Green in his Paper," read before the Academy Dec. 6th, 1854. That treatment is the injection of nitrate of silver into the bronchi, and, "under favorable circumstances," into tubercular cavities.

The following are Dr. Barker's conclusions:

In conclusion, the minority of the committee would suggest, for the acceptance of the Academy, the following propositions:

1st. Direct medication of the lungs by means of catheterism of the air tubes, was first proposed and carried into effect by our associate member, Dr. Horace Green.

2d. The operation may be performed by the dexterous surgeon with ease and facility, and with perfect safety to the patient.

3d. The results of this method of treatment, whether it has been employed in bronchial affections or in the commencement of tuberculosis, have already afforded the most gratifying indications that practical medicine will be greatly advanced by this discovery.

B. FORDYCE BARKER, of the committee.

Messrs. Lindsay & Blakiston have now in press and will shortly issue, "A Work on Epidemic Cholera, embracing its Characteristics in

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General; its History and Cause; Local Preferences, and non-Contagiousness; Symptomatology, Pathology, &c." By HORATIO G. JAMESON, M. D.

At a special meeting of the Northern Medical Association, held July 16th, 1855, in reference to the death of Dr. M. B. Smith, the following preamble and resolutions were adopted:

Whereas, It has been announced to the Association that our presiding officer, Dr. Moses B. Smith, "was called from works to rewards" on the morning of the 15th inst., and it appears fitting for us on this occasion to express our sentiments on account of the bereavement, and our opinion of his high worth: therefore

Resolved That in the decease of our venerable and lamented President, Dr. M. B. Smith, (who was one of the earliest members in our organization, and most assiduous in his attention to the welfare of the Association, in every respect,) we have sustained an irreparable loss.

Resolved, That we most respectfully and sincerely tender our warmest sympathy to his family in the present affliction.

Resolved, That as a last token of our regard to his departed worth, we will attend the funeral to-morrow afternoon in our associate capacity.

Resolved, That a copy of the above proceedings, signed by the Vice-President and Secretary, be sent to the family of the deceased.

Resolved, That a copy be also sent to the editors of the Medical Examiner and Medical News, with the request to publish.

JOHN RHEIN, Vice President.
J. HENRY SMALTZ, Sec. pro tem.

RECORD OF MEDICAL SCIENCE.

A Small Calculus Removed by the Lateral Operation of Lithotomy. By PAUL F. EVE, M. D., Professor of Surgery, Med. Dep. Uni. of Nashville.—From the statistical report of the principal operations performed in the London hospitals during the month of January, 1855, we find the following case re-published in the Medical News of Philadelphia: "A healthy child, aged 4, under the care of Mr. Athol Johnson, in the hospital of children. There had always been great difficulty in detecting the stone. At the operation it was found to be too small to be grasped by the forceps, and was finally removed by the scoop-end of a director and the finger. It weighed only *five grains.* The child recovered well."

My friend, Prof. Wm. H. Van Buren, of New York city, reported in the Medical Times for May, 1853, the case of a child 3 years old, who from birth labored under symptoms of stone. Some difficulty was

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experienced in detecting the calculus, but by the lateral operation, one weighing *nine grains* was successfully extracted.

"Mr. Martineau, of Norwich, England, is said by Crosse in his prize essay on Urinary Calculus, to have extracted a calculus weighing only *ten grains* from a boy 13 years old; and this is spoken of as being the *smallest probably ever removed by operation.*"

In the 1000 extracted by the late distinguished Dr. Physick from Chief Justice Marshall, of Virginia, some, of course, were represented as exceedingly diminutive—comparable to pin-heads. In my own collection of 157, the smallest single calculus weighed *eleven grains;* but when multiple, some weighed only a grain or two.

I recollect a case, some years ago, in which I was called by the attending physician to relieve difficult micturition. As the catheter entered the bladder, I felt pretty certain it had encountered a rough foreign body at its neck. The patient was now prepared for lithotrity, as he had an ample urethra and good condition of the bladder for this operation. But by no manipulation with instruments, could a calculus be again detected. A few days afterwards, he brought me a stone, about the size of a small grain of coffee, which he had passed in urinating.

The case now reported is also that of a boy, 4 years of age, who had experienced symptoms of stone in the bladder for the past ten or twelve months. Its existence was detected by the sound about four months before the operation.

The child being evidently of a scrofulous habit, and having, too, recently passed worms, was put under treatment; and at the end of ten weeks was supposed to be prepared for lithotomy. Placed under the influence of a combination of ether and chloroform, no one now present could be certain of touching the calculus, and the operation was deferred.

Two months later, April 21st, the distressing symptoms of a foreign body in the bladder still persisting, preparations were again made for its removal. As the grooved-staff entered this organ, it apparently pushed the stone from its neck; but by no subsequent manipulation, either with it in my hand or in that of others, could a *click*, *clink*, or sonorous sound be elicited. Satisfied that I had again touched a rough foreign body, and which was confirmed by Dr. Briggs, we proceeded to perform the bi-lateral operation. As even the smallest size *double lithotome caché* of Dupuytren was deemed too large for our little patient, one manufactured here for the purpose was employed. The blades were, however, found too slender to divide the parts with facility and certainty, when this instrument was laid aside, and the lateral section made with a scalpel. A very small calculus was now detected in the bladder, which could not be seized with forceps, but was readily extracted with a finger *It weighed eight grains.* The child had a very rapid recovery. In three or four days he was about the house.

In these instances there was not substance or material enough to produce the metallic ring or click when the sound touched the urinary concretion. This diagnostic symptom, the most pathognomic of vesical calculus, is absent in these cases, and the operation must therefore be

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performed under peculiar circumstances. Neither can the finger in the rectum, on account of the small size of the stone, add much or anything in making out definitely the correct diagnosis. The surgeon has chiefly to rely upon the *tactus eruditus* in these cases.—*Nashville Jour. Med.*

Exfoliation of the Mucous Membrane of the Uterus; treatment by canula in the os uteri, etc. Under the care of Dr. TYLER SMITH.

Cases of what are styled "membranous menstruation," with the excessive pain attending this affection, are not uncommon in general practice, yet it is only lately that they have come to be properly understood. The older pathologists, as Baillie and Wm. Hunter, believed dysmenorrhœa to depend on an inflammatory condition of the uterus at the period of menstruation, and that even in the virgin uterus an organized substance, resembling the decidua, was formed by the lining membrane, and thrown off, when a small organized mass, the shape of the cavity of the uterus, was passed. Whether in the married or unmarried condition, it was known in common language as a "mole."

Dysmenorrhœa sometimes takes place from the very commencement of menstrual life, and there is good reason for believing that it depends on the small size or strictured condition of the os uteri. The menstrual fluid, after it is formed or while forming, cannot readily escape; distention of the organ speedily follows, which, by exciting the contraction of the uterine fibres, produces pain almost simulating that of labor. Even the action of the abdominal muscles is called into play, and many cases of what are termed "spurious pregancy" may be very possibly explained in this manner. It is believed, too, that women thus affected rarely, if ever, conceive or bear children, the normal healthy function of the uterus being interfered with, as well as the woman's health reduced by the constant suffering and pain. Of all the means of cure hitherto tried, dilatation of the canal of the cervix uteri seems to be the best, to which more recently has been added the introduction of a silver canula, as tried by Dr. Tyler Smith.

When in 1846 Professor Simpson, of Edinburgh, announced that the membrane expelled in certain cases of dysmenorrhœa was not simply a fibrinous or inflammatory exudation, the result of some change in this organ, but consisted rather of "exfoliation or detachment of the mucous membrane of the uterus itself," the obstetric world, according to Dr. Tyler Smith, as he explained to his class, was somewhat startled from its propriety, and ever since that time, when the matter has been referred to, it has generally been with strong expressions of doubt and incredulity. Obstetric practice has been hitherto rather undeservedly under a cloud in London, and few opportunities have been afforded to test the matter. We are not aware that any researches bearing directly upon Dr. Simpson's discovery have been published in London, so that the following case, abridged from the notes taken in St. Mary's may be instructive:—

M. D——, aged thirty-two, twice married, but without children, was admitted April 20th, suffering from dysmenorrhœa and the discharge of membranous matter at each monthly period. The history of the case,

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as taken by Dr. Vernon, was as follows:—She was first married at the age of sixteen, and before this time had menstruated healthily. After marriage she began to suffer from menorrhagia, which she supposed to have been caused by excessive intercourse. This went on, and ended in membranous menstruation, accompanied by profuse sanguineous discharge. She continued to suffer in this way during the lifetime of her first husband; but seven years after her marriage she became a widow. She now slowly recovered her health menstruation becoming less painful, and the dysmenorrhœal membrane disappeared altogether. She remained unmarried for several years, but married a second time about two years ago. Six months after this marriage, she began to suffer pain again during the menstrual periods, and the characteristic membranous shreds reappeared in the discharge. She now for the first time had internal hæmorrhoids, with fissure of the rectum; blood was occasionally passed by stool; and defecation, except under the influence of laxatives, caused great pain; micturition was also painful. In the intervals of menstruation she complained of leucorrhœa, the discharge being sometimes of a brownish color. Occasionally severe pruritus was present. She had been a patient at several public institutions without obtaining material relief.

At the end of last year, when she first became an out-patient at St. Mary's Hospital, her health was much broken by menstrual losses, the dysmenorrhœal pain and the leuconhœal discharge. At this time the membranous matter came away in flakes of considerable size, the largest generally passing on the first days of menstruation. The greatest pain was suffered on the first day of the discharge and the two or three days preceding its appearance. On examination, the uterus was of the natural size, and the only thing tobe remarked was a very contracted state of the os uteri, scarcely admitting the end of a probe into the canal of the cervix. Various remedies were used with the effect of moderating the leucorrhœal discharge and improving the general health. The os uteri was on several occasions dilated mechanically, but it was soon found to return to its former state of contraction. On one occasion Dr. Smith introduced into the cervix uteri a small silver canula about three quarters of an inch long, with a view to its remaining in the canal during a catamenial period. She menstruated while wearing this instrument, the discharge coming away freely iu a granular instead of membranous form, and she suffered much less pain than usual. She herself stated that she had not been so free from pain at any month since the time the disorder reappeared after her second marriage. Some days after menstruation had ceased, this canula was taken out, and at the next two or three monthly periods the pain and membranous discharge returned as before. Dr. Tyler Smith now admitted her into the hospital, with the view of watching the case more closely, and ascertaining, if possible, the exact nature of the discharge. Shortly after admission menstruation took place, and the membranous flakes were carefully collected and examined with a lens and by the aid of the microscope. The largest membranous flakes exceeded the size of a shilling, and were about the eighth of an inch in thickness. When examined in water, they presented on one side a

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smooth surface, and on the other side the surface was flocculent and irregular. A vertical section showed the membrane to consist of a fibroid layer, in which was imbedded an abundant cell-formation, made up of multitudinous nuclei and celloid particles. From the free or smooth surface, numerous villi projected, while from the flocculent surface, long tubular glands could be seen passing downwards. These glands had a basement membrane, surrounded by an outer thin coating of nuclei and fibroid tissue, and were lined with epithelium. The tubes of the glands were full of cylinder epithelium, nuclei, and granular matter. The tubular glands could be seen with the naked eye, and, with the villi of the surface, were characteristic of the uterine mucous membrane. There appeared to be no doubt that the membranous flakes were the mucous membrane of the fundus uteri, cast off *in toto*.

This case, then, strongly supports the pathological views of Dr. Simpson. An intelligent young German physician, Dr. Spiegelberg, of Gottingen, who saw this case with Dr. Smith, informed us that the celebrated Virchow, of Wurzburgh, and Professor Heschl, of Olmutz, formerly senior assistant to Rokitansky at Vienna, had examined these exfoliations, and found them also to consist of detached mucous membrane.

On the approach of the next monthly period, after this examination of the membranous formation, the silver canula was again introduced, with the effect of diminishing the pain as before, and the discharge also contained much less flaky matter. The tube was allowed to remain *in situ*, and a second period has since been passed with marked diminution of pain, and alteration in the character of the discharge.

We have given an account of the present case because of its intrinsic interest, and to note the relief afforded by keeping the os uteri open with the canula. It remains to be seen how far the benefit derived in this way will proceed, but the use of such a means is certainly rational in a form of disease which obstinately resists ordinary modes of treatment. In other cases of membranous menstruation treated at St. Mary's, Dr. Smith has tried local abstraction of blood, counter-irritation, mild mercurialization, iodism, tartar emetic, (given at the periods so as to keep up constant nausea,) opiates, preparations of steel, cubebs, &c. &c., without arriving at any certain means of checking this troublesome disease. We ought not to omit to mention that in the case now under comment, full doses of camphor lupulin had been given with a view to their antiaphrodisaic effects.—*London Lancet.*

Epilepsy Cured by a Surgical Operation.

To D. M. Reese, M. D.

Sir—To follow the common path of life, and to do so tamely and quietly, is to meet the common-place acquiescence of the world; and how many die utterly unknown to the page of history, simply because they feared more the criticisms of the world than they wished to benefit mankind by prosecuting a course of thought and action which would lead to it.

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To step aside from the ordinary walk in which the masses tread, is often attended with censure—gross and inflexible denunciation—vituperation, and all the other windy hosts of weapons, not to mention a subjectedness to the imputation of being called an unmitigated liar. Somebody has said, and was it not Sir Isaac Newton? "I see a man must either resolve to put out nothing new, or become a slave to defend it."

This article will advance something decidedly new to the medical literature of America, but in doing so the writer will not "become a slave to defend it," for if the world will not believe it, the world can have recourse to the other alternative, viz., "just let it alone." When medical men write, (and too many of them do,) it is either for the purpose of proving something beneficial to the world, or that they themselves are fools. Now, when men advance things to the medical world—if it even be consummate nonsense—some blockhead or other will believe it; and if he does, and acts accordingly, why there will be "work for the sexton." This is rather a practical way of talking to those who delight in theoretical attenuations, but we are eminently practical, yet know something about theory too, but not any too much. In presenting a fact, it is not always necessary to use circumlocution to make it appear a fact. We are well satisfied in our own mind, and we have become so by experience—an experience extended through a series of years in experiments that prove beyond the adumbrance of a doubt, *the way to cure a man of Epilepsy is to castrate him.*

When the writer was attending the school of Pathological Anatomy, in the City of Liverpool, he heard a learned professor say, in speaking of Epilepsy, that "persons have been known to recover from Epilepsy after accidents happening to them which rendered it necessary to remove one or both of the testicles." "But," he went on to say, "to do this voluntarily, and for the sole purpose of curing this intractable malady, is too cruel, and some how or other at variance with, and repugnant to, our feelings." He also added: "Those who are aware of this as a remedy for Epilepsy, and have omitted making publicity of it, have doubtless been influenced by such reasons as have already been mentioned." The next day after hearing the above, when walking on the "green common" in company with a Scotch student, Mr. McGavoc, now of the British Navy, the subject of Epilepsy was theoretically canvassed. Mr. McGavoc said: "I knew a man in Dumfrice that had Epilepsy—he was 27 years old—had it from the age of 12, till he was 24; at this age he took mumps—was badly attended, and caught cold—metastasis to the testicles took place, and a surgeon castrated him, and cured both the mumps and the fits." He said: "It is three years since he was castrated, and has not had a fit since."

He also said: "I knew a filthy boy of about 16, who fell through a bridge when crossing it on horseback; he mashed one of the *testes*, and it had to be taken out; after it was removed he never had another fit, and it is now 6 or 7 years since the accident happened." After the writer returned home to the United States, and commenced his professional career in Tennessee, he visited the plantation of a Mr. H——,

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not many miles from Huntsville, Ala., who had a negro boy 14 years old, subject to attacks of Epilepsy. The writer, after examining the boy, asked his master if he was aware of the boy being fond of sexual intercourse. "Why, Dr.," said Mr. H——, "he has never been flogged more than 5 or 6 times in his life, and nearly every flogging has been for lechery. Sir, he is so bad on the little girls and *boys* that I often have threatened to "cut him." The writer then made known to Mr. H—— the evidences he had in favor of such a measure, which being acceded to, the operation of castration was at once performed, and the boy had no more fits, but has been perfectly sound ever since, and sold at the age of 20, 6 years after, for eleven hundred dollars.

Isaac T——, of Tennessee, had Epileptic fits from the age of 13 till he was forty-two; no remedy he could apply done him any good, till the writer castrated him. Anterior to this operation being performed, he was morbidly uxorious, to the extent of very great excess, and had two daughters. Nor did this operation upon Mr. T—— disqualify him for conjugal intercourse. His wife has had two sons within two years after the cure was effected. It is true, the sons did not resemble the daughters very strikingly! Mr. T—— did not fail to remark this; when he consulted the writer, by whom he was informed that certain operations upon the organs of generation produced certain other changes, only to be accounted for by invoking physiology and the psychological powers—he said it was perfectly clear to him, and that he understood it.

Three physicians to whom the writer has named his views concerning castration for the cure of Epilepsy, have adopted it, and each have been successful. Dr. White, of Tennessee, in 2 cases; Dr. Talbot, of Missouri, in 2; and Dr. Hacker, deceased, of Louisiana, in 1. Some may say that worms will produce Epilepsy, and that castration cannot cure worms. Now to such let us say, the Epilepsy of worms is not Epilepsy. Others will say that spiculæ of the skull produce Epileptic fits—neither is this Epilepsy. Nearly all kinds of fits, or such attacks of illness as neutralize the control of the voluntary system, are marshaled under the denomination of Epilepsy; but the writer holds, and he thinks he can show sufficient evidence to others, that a peculiar erethism of the ultimate nerves, of that plexus which governs the sexual system, can alone explain, as it is the only source of Epileptic fits. But as an explanation is not yet called for, it would seem unnecessary to offer it till it is. S. E. McKinley, M. D.

Irwinton, Ga. May 22nd, 1855.—*American Medical Gazette.*

[Are not women subject to epilepsy also, and would Dr. McKinley advise us to take out their ovaries: spay them? Masturbation and excessive venery, like other exhausting agencies, may occasionally, we have no doubt, cause the attack. When they do, which we believe to be seldom the case, the operation above proposed might prevent a return of the disease. That a man should be castrated, however, merely because he has epilepsy, is rather hard. It is well known that any serious

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shock to the system, as for instance a fall from a height, a severe bruise, or wound, any disturbing agency in fact, frequently puts a stop to the fit for a long period; sometimes cures the disease; and this may be the explanation of the successful result in the above cases.—EDITOR.]

On the Use of the Pad in Varicose Ulcers. By R. BARNWELL, F.R.C.S. Assistant Surgeon at Charing Cross Hospital.

The result of some cases of varicose ulcer, treated on a plan which, though not new, is scarcely sufficiently well known, may be of interest. One case, the worst I have thus treated, will be sufficient. It occurred in the person of a poor woman, aged 58; and the ulcer on the ancle was deep, surrounded by blue hard edges, was extremely painful, and discharged, in considerable quantity, a thin pus. It had been kept bandaged, treated with various lotions and ointments, for two years, and the foot had remained so perfectly rigid, for fear of the pain on moving, that a partial anchylosis appeared to have taken place. The veins in the leg were varicose, but not extremely so.

Every application I could devise, every change in the treatment, appeared utterly useless. The woman would not go into an Hospital, where she might rest the limb, and perhaps have the vein obliterated by tying or caustic. I tried, therefore to find a substitute for that mode of treatment. Now the many veins on the back of the foot, and inner side of the leg converge into one trunk, the internal saphenous, which vein, with its radicles, is most frequently varicose; and I determined to apply a strong and constant pressure upon some part of that vein, to prevent the dilatation of those below, the blood finding its way through some other channel. The method used in this case was simply a firm pad, tightly fastened upon the vein, immediately beneath the head of the tibia, by two cross strips of plaster, which did not meet so as to surround the limb on the outer side. The leg was then firmly bandaged.

The effect of this treatment was almost immediate. The ulcer began to fill up, and the hard edges yielded. The pad was first used in the middle of November; by the end of February the ulcer had healed, and this while she was walking about and following her employment as a washerwoman. The other cases in which I have used this method of cure are naturally similar, and I have never found reason to dread any inconvenience whatever from the practice. A very simple instrument will, however, be found a more convenient method of compressing the vein than the cheap but rude expedient I have adopted among the poor.—*London Med. Times and Gazette.*

Two Cases of Hydrophobia recently observed in Smyrna.—In the month of September, 1853, a dog bit a man, 22 years of age, on a naked part of the calf of the leg, and on the same day bit a female, 20 years of age, on the hand. The man's wound was deep. No caustic was applied. It suppurated freely, and did not cicatrize for fifteen days. The girl's wound was so slight that it was scarcely perceptible six or eight

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hours afterwards, when it was seen by a medical man, who touched it with nitrate of silver very slightly. The next day a young man was bitten in the hand, but the wound was immediately cauterized by the acid nitrate of mercury. The dog, being ill, was poisoned by strychnia. In April, 1854, eight months after the bite, the man first bitten was seized with unequivocal symptoms of hydrophobia, and died 70 hours after the symptoms declared themselves. On the 17th of April, 1855, twenty months after the bite, the girl also was attacked, and died in about 60 hours. The third person bitten has not yet suffered. The girl had not been aware that her bite might prove dangerous, and had had no fear of hydrophobia. Pustules under the tongue were looked for in the girl's case, but not found, although the arteries and veins of the part appeared congested. No unusual mode of treatment was practised. Dr. Macraith shortly alluded to three other cases he had heard of, showing that the disease was not unfrequent in Smyrna, and stated that a part of the coast of Asia Minor, opposite Rhodes, where hydrophobia was present in the days of Hippocrates, was still noted for the frequency with which it is met with in the present day.

Mr. Spencer Wells, having inquired of Dr. Macraith whether the symptoms in these cases had been preceded by pain in the bitten part, and received the reply that they had, in both instances, alluded to the propriety of excising the cicatrix, at any period after the bite, even after the commencement of the symptoms of hydrophobia He said pain in the cicatrix was so commonly observed, that, although it was difficult to suppose that a poison could be mechanically imprisoned in any part of the body, it appeared advisable to perform excision, if only for the purpose of giving confidence to the patient. In the only case of hydrophobia he had ever seen this was done, and the symptoms certainly abated for a few hours afterwards.

Mr. Eddowes said that in tetanus he would also perform excision of any injured part, and had seen the practice of great use, accompanied by the endermic application of morphia.

Mr. Halke alluded to the state of the kidneys in hydrophobia. He had seen a case last year in King's College Hospital, in which great diminution of urine, and finally suppression, took place. Urine drawn off by the catheter was smoky, highly albuminous, and largely charged with free epithelium and epithelial casts. The kidneys, at the post-mortem examination, presented all the appearances of acute desquamative nephritis. In another case, at Charing Cross Hospital, the kidneys presented similar appearances.

Dr. Leared suggested that possibly the diminution in the quantity of urine might depend upon the fact that no water was imbibed.

The Chairman inquired if any account could be given of the manner in which the dog acquired the disease. Dr. Macraith replied that it was a sporting dog, and nothing could be discovered as to inoculation.

Mr. McDonnell related a case he had seen to prove that the bite of a dog simply enraged, and not suffering from hydrophobia, might give

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rise to the disease. In this case the bite of a spaniel that continued well was followed by fatal hydrophobia.

Mr. Macleod said that this was a well known and established fact.

Mr. Spencer Wells doubted the correctness of these statements, and thought that a dog must be suffering from this specific disease before he could convey it to the human subject. He might have it mildly, (just as a person with but a few spots of small-pox might communicate a severe form of disease to another person), and recover. In the case he had seen, inoculation was distinctly traceable. It occurred in Malta, where the disease had been unknown for upwards of thirty years, and it was only after considerable trouble that it was found that a dog had arrived in a vessel from Gibraltar that had died of hydrophobia, after biting another dog, that had bitten a cat, whose bite had proved fatal to a woman after an interval of about six weeks.—*Ibid.*

Cutaneous Nævi cured by the application of Iodine paint. By S. EDWARDS, M. D., Physician-Accoucheur to the Samaritan Hospital for Women, etc.—During the past twelvemonth I have met with two cases of cutaneous nævus in infants, which have been most satisfactorily and completely eradicated by means of the external application of iodine paint.

The first instance in which I was induced to employ it, was for a nævus unfortunately situated on the side of the neck of a female infant. At birth it appeared simply as a small, red shining spot, which in three months increased to the size of a fourpenny piece. The mother of the child at this time positively refusing to have any escharotics employed, fearing that it might give rise to a permanent and greater deformity, I recommended astringent and cold applications to be applied constantly, and this was kept up for some time, but with no good result. The nævus at the end of ten months had acquired additional size, and was observed to become redder and a little more elevated, whenever the circulation was increased by crying, etc. The parents still refusing any of my former suggested remedies, or even of vaccination, "until it got worse," I recommended the use of iodine paint, which was regularly employed by gently painting over the surface with a camel's hair pencil every alternate day, occasionally leaving it off for three or four days when the skin was very irritable and rough. Under this treatment I was pleased to find that the growth of the nævus was arrested, became smaller and mottled, and finally disappeared; a speck or two alone being visible to mark its former site.

The second case was very similar; it occurred in a little boy nearly two years of age. The nævus was about the size of a shilling, but slightly elevated, and situated on the abdomen, and had gradually but very slowly, increased since birth. No treatment had been employed, the Physician who attended the mother of the child, having advised nothing to be done unless it increased. The tincture was commenced in September, 1854, and was continued more or less up to last month

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when the disease had disappeared, leaving scarce a trace of the mischief.

I know not whether others may have made trial of this treatment, but its success in these two cases has induced me to draw attention to it, as it is a plan so simple in its character that I can see no objection to its employment. In neither of these cases did it produce fever, or, in fact, any effect upon the general health. It is difficult, of course, to decide what might have been the result had these cases been left to themselves without treatment. I have seen several that in the course of time spontaneously disappeared; but still the fact that each of the above cases had gone on increasing up to the commencement of the treatment, and then began shortly to recede, and finally disappeared, must induce the belief that some considerable merit is due to the iodine, and that it deserves a more extended trial.

The many plans that have been proposed and adopted for producing inflammation in, and consequent destruction of, the nævus, are mostly attended with serious objections—*caustics*, by occasional extensive ulcerations, serious hæmorrhages, and by exciting not unfrequently considerable constitutional irritation. *Vaccination* has, I believe generally failed, and when successful has the disadvantage of leaving the ordinary cicatrix. The seton, needles, the injection of fluids, and lastly, and perhaps the best of all, the knife, have an aspect of seriousness to the parents, and are all fraught with occasional serious consequences. The latest plan which has been suggested, is that of Mr. J. B. Brown, who has produced pustules on the cutaneous nævus by means of tartar emetic ointment. Besides the almost certainty of a larger or smaller cicatrix being left, in one of his cases it occasioned very serious slough of the neighboring parts; objections to its employment about the face and neck of a very decided character.

Under these circumstances, I feel desirous of drawing attention to the above examples, that others may put to the test the value of iodine in these troublesome malformations of the skin, and which, if they would kindly give me the result of their trials, I should esteem it a favor.—*Medical Times and Gazette.*

Removal of Metals from the System by Galvanism. By G. Huff, M. D., Lexington, Kentucky.

To the Editors of the New York Medical Times:

Gentlemen—Having experienced the beneficial effects of galvanism in extracting metallic poisons from the human organism, and believing it to be a subject of much interest to the profession, I now place at your disposal a report of my experiments.

Very respectfully yours, G. Huff.

Case I.—Mrs. W——, aged 27 years, of lymphatic temperament, with auburn hair and white skin, had been under treatment for diseased spine fifteen months. During this time she had taken very large quantities of mercury, which, her subsequent medical attendant stated, produced paralysis of the lower extremities.

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I was called in consultation by the advice of her physicians, and it was decided that she should be put under treatment by galvanism. Her physicians having thrown upon me the entire responsibility of the case, I took charge of her; and one day, while making an application of this potent agent to the spine, the feet having been placed in a metallic bathing-tub with acidulated water, her husband suddenly called my attention, exclaiming at the same time, "See the mercury!" On making an examination, I found several globules of metallic mercury lying on the bottom of the tub. I continued this (electric) treatment a long time, and she ultimately recovered, and now enjoys the powers of locomotion most perfectly.

Case II.—Mr. B——, aged 40 years, of nervous temperament, with dark hair, white and thin skin, had been treated for syphilis for a long period, and had been repeatedly salivated, from which he had suffered severely in the joints. The capsular ligament was so much elongated as to cause luxation of the head of the *femur*; separation of the *carpus* of each hand had taken place, and the metacarpal joints of the fingers were very much enlarged. He had been under treatment of physicians who stood deservedly high in the profession, and had visited warm springs in Arkansas by their advice. At this time he could scarcely move with crutches, even with the help of two attendants which he took with him. He remained there one winter, and returned without having obtained any relief. His friends then advised him to apply to me, and, with the consent of his physicians, he did so. On examination of his case I concluded to treat him, and commenced with warm baths, which invariably left him worse, the joints becoming more stiff and painful, and with less mobility. Believing that the remote cause of this aggravation of his disease was the presence of mercury in his system, I was induced to attempt to extract it. To accomplish this, after having placed him in a porcelain bathing-foot tub, with acidulated water, and a metallic plate beneath his feet, I completed the circuit, and after the lapse of twenty minutes I discovered a light-white precipitate, and the impress of his toes left on the plate of a light bluish color, with silvery lustre. I repeated this operation several times, and then commenced the galvanic treatment for rheumatism, and infused iodine into the joints in order to produce absorption of abnormal secretion that had formed there. From this time he commenced to improve, and went on improving without a relapse. All the joints have now recovered their normal condition, with the exception of the left hip-joint, the femur of that side now remaining seven-eighths of an inch below the right, although it has ascended three-eighths of an inch during my treatment; his general health has very much improved; in fact, he says it is now as good as it has been at any period of his life.

Case III. Mrs. N——, aged 28 years, of bilious temperament, small size, hair and eyes black, of a very high order of intellect. At the birth of her second child there was very profuse hæmorrhage, and much inflammation of the uterus was superadded in consequence of medicines having been imprudently given by her physicians to facilitate labor. For the purpose of suppressing the hæmorrhage and restoring the uterus

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to a healthy condition, sugar of lead was given in small doses, and its use continued a long time. This treatment resulted in *lead palsy* (the total loss of muscular contraction of the extremities.) In order to extract the lead from her system, I commenced the treatment by galvanism in the same manner as in the foregoing case, and with the same results, except that the precipitate was of a dark grey color, and the impress of the toes left on the plate was of a darker hue. When the paralysis was nearly removed, partial amaurosis set in, and ultimately became total. I treated this without benefit, although I think the treatment has not been fully tested, as she was obliged to return home, in consequence of domestic cares, sooner than I anticipated.

Lexington, Ky., May 8th, 1855.

[The preceding communication contains results which will doubtless be novel to most of our readers, and which would seem to promise to be of value in a therapeutic point of view. It derives additional interest from the fact that, at the meeting of the Imperial Academy of Medicine of Paris, held January 29, 1855, a note was presented from MM. Verguès and A. Poey, on *the new application of electro-chemistry to the removal of metals from the system.* We extract the following account of the disease and process from the *L'Abeille Medicale*, 15th Feb., 1855 :—

M. Verguès, who had on the back of his hand an ill-conditioned ulcer, caused by the introduction of metallic substances in the process of gilding and silvering by galvanism, on plunging his hands into an electro-chemical bath at the positive pole, found to his great surprise, a metallic plate in contact with the negative pole, covered, at the end of a quarter of an hour, with a thin layer of gold and silver. A few baths proved sufficient to radically cure the ulcers, which had previously resisted the most active means. The first experiment was made at New York, the 16th of April, 1852, and was followed by several others, which had led to the introduction of a new therapeutic mode of removing metals from the system.

The patient is placed up to the neck in a metallic bathing tub, isolated from the ground, and made to rest in a horizontal position upon a wooden bench, the whole length of the body, which is to be also isolated from the bathing tub. The water is to be acidulated with the nitric or the hydrochloric acid for the removal of mercury, gold, and silver, and with sulphuric acid for the removal of lead.

One extremity of the bath is put in contact with the negative pole of the pile by means of a screw, and the patient takes hold of the positive pole sometimes with the right hand and sometimes with the left. Tho arm is held up by supports in contact with the seat. The extremity of the positive conductor which the patient holds is armed with a massive iron handle, wrapped around with linen, to diminish the calorific action of the current, which is very powerful, and which, without this prevention would burn the hands.

The patient being thus placed, the positive current enters either by the right or left arm, circulates from the head to the feet, and is neutralized at the negative pole, on the sides of the bathing tub. Being isolated from direct contact with the negative pole as well as from the ground,

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the electric fluid radiates from the body into the bath, forming a multitude of currents from the entire surface of the body, which, after having traversed the internal organs and even the bones, neutralize themselves upon the negative side of the bathing tub.

They say that they have thus withdrawn from the femur and tibia of a patient a large quantity of mercury, which, according to the opinion of several physicians, had remained there fifteen years.

The paper was referred to a commission, consisting of MM. Dumas, Rayer, and Cl. Bernard.

The *Virginia Med. and Surgical Journal*, for May 1, 1855, contains also (in addition to the above) an account of an experiment made before the members of the Faculty of Medicine of Havana, in which a similar result followed the use of the same agent.

The metallic spots formed by this process are said to vary in size from that of the head of a pin to the size of a pea, while some are microscopic.

In a letter received from Dr. Huff, subsequently to his communication, he says that he had never seen the process, nor read any work respecting what he calls "his method of extracting metals from the human system." He says, "my mode is constantly demonstrated by the ordinary course pursued for the electrolysis of metallic salts, by those engaged in electrotyping and electroplating." He speaks also of the solution of urinary deposits in the bladder by galvanism without any *difficulty or pain*, and promises to communicate some interesting results on the subject.

The report of the Imperial Cabinet of Medicine has been copied in different journals in our country, and has been hailed as embodying a valuable contribution to therapeutics; and if future results confirm the hopes thus entertained, the paper of Dr. Huff will be invested with additional interest.—*Eds. N. Y. Med. Times.*

On the Anthelmintic Action of Sulphate of Quinia. By Dr. PROSPER DELVAUX, Fellow of the Faculty of Medicine of the University of Brussels.

During the last three years I have proved the efficacy of sulphate of quina as an anthelmintic. Some days after the administration of this salt in the intermittent fevers of children, the parents came to announce to me the cure of the fever; but in a great number of cases, the little patients had had motions, followed by the expulsion of intestinal worms.

Thenceforth I asked myself, if sulphate of quinia had not anthelmintic properties? I then gave it to children affected with worms, and my trials were crowned with success. Every time that I made use of this salt as an anthelmintic it produced this effect, which I have verified in a great number of cases.

So early as 1764, Professor Van Doeveren of Groningen, reported two very interesting observations on the anthelmintic property of Peruvian bark.

The first case was that of a child, aged 12, affected with tænia. Pur-

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gatives, calomel, assafœtida, &c., had been tried, but in vain. At last, an ounce and a half of Peruvian bark was given in four days. After having taken the powder, the patient passed an entire tænia with the head.

In the second case, the patient was a young girl laboring under fever. She took an ounce of powdered Peruvian bark, made into an electuary with simple syrup. Three round worms were expelled.

In a great many cases, adds Van Doeveren, physicians have given this febrifuge with the single idea of subduing fever, and without having the least suspicion of worms, and nevertheless it has brought them away. Heister combined bark with mercury in his anthelmintic electuary, probably because he suspected the vermifuge power of the former.

I have collected upwards of forty cases of children affected with lumbricoid ascarides who have been radically cured of this affection with sulphate of quinia. The salt usually produces, at the end of twenty-four or thirty-six hours, several liquid motions containing these entozoa.

The sulphate of quinia is also most effectual in removing the ordinary ascarides (oxyures vermiculares.) As is well known, these parasites are lodged in the fæcal matters in the rectum, sometimes in the colon. They appear to imbibe a remnant of the chyle which serves to nourish them. They are expelled in a ball (peloton) with the fæces, or escape by themselves, causing intolerable itching, tenesmus, and other annoyances.

Injections of sulphate of quinia, repeated every evening for a certain time, are capable of completely destroying these entozoa.

I had twice an opportunity of administering sulphate of quinia for tænia, and in both cases the worm was expelled and was not reproduced. The first case occurred in October, 1855, and was that of a widow, aged 28, who had suffered for many years from a tænia of which she was constantly passing one or more segments. Every known anthelmintic had been administered without completely freeing her from her malady. After having taken about forty-six grains of sulphate of quinia, she voided several yards of a tænia, the characters of which corresponded with those of the bothriocephalus latus. The medicine was continued for some time, and she has ever since enjoyed good health, and has had no return of the worm attacks.

The subject of the second case, dating from the month of March, 1855, was a little boy, aged four, who, according to the report of the parents, had been from the time he was one year old in the constant habit of passing entire ells of a large flat worm, which I recognized to be the tænia lata. Sulphate of quinia was exhibited, a worm twenty-nine and a half feet (nine metres) in length was expelled, since which there has been no return of the affection.

Sulphate of quinia is, therefore, truly an anthelmintic. The physician often meets debilitated sickly young children, whose constitution bears the stamp of the most profound asthenia. He generally shrinks, when these children are at the same time attacked with worm affections, from the long list of anthelmintics, which, most frequently, only act on the

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digestive tube by producing violent effects, which are often felt injuriously throughout the entire system.

It is in such cases especially that the sulphate of quinia is advantageous, and I have never seen its employment followed by unfavorable consequences. Sulphate of quinia produces its vermifuge effects in virtue of its bitter properties; for bitters, as is well known, act more energetically as poisons on animals, in proportion as the latter are lower in the scale of creation.

Is it not on account of their bitter properties that Celsus and Cælius Aurelianus extol worm-wood and centaury as anthelmintics, and that Riviere (Praxis Medica, Book v. chap. 9,) praises the same and other plants as vermifuges, and as especially efficacious in removing lumbricoid ascarides? Kluyskens, in his treatise on "Materia Medica and Therapeutics," says that "bitters are very detrimental to worms." "It is a very curious fact," observes this writer, "that vegetable bitters should in general be so destructive to inferior animals; flies perish almost immediately on being wet with an infusion of quassia."

It is, therefore, not impossible that sulphate of quinia should be capable of killing intestinal worms. Moreover, by its tonic action, it restores the power of the digestive organs, debility of which strongly predisposes to the production of entozoa.

Doses and Mode of Administration.—The dose of the sulphate must vary according to the age of the patient; from two to ten years it will range between three and six grains; in older persons, so much as nine grains may be given in the twenty-four hours. When the medicine has produced the desired effect, the dose ought to be gradually diminished. During its administration the diet should be light. It is seldom necessary to have recourse to aperients; it may, however, occasionally be advisable to administer castor-oil or syrup of rhubarb. The following formulæ for its exhibition have been employed:—*Powders.*—Sulphate of quinia, half a scruple; sugar, as much as may be sufficient; divide into six powders. *Pills.*—Sulphate of quinia, half a scruple; honey, marshmallow powder, of each as much as sufficient; make into six pills. *Electuary.*—Sulphate of quinia, from three to six grains; purified honey, two ounces; mix; a teaspoonful to be taken frequently. *Syrup.*—Sulphate of quinia, from three to five grains; syrup of orangepeel, ten drachms; a teaspoonful to be taken at a time, and frequently repeated. *Enema.*—Sulphate of quinia, five or six grains; dilute sulphuric acid, as much as may be sufficient; distilled water, eight ounces.—*Presse Medicale Belge*, April 15, 1855, p. 125.

On the In-Growing Toe-Nail.

[To the Editor of the Medical Times and Gazette.]

SIR,—I have, in the last year or two, read so many letters in the *Medical Times*, and other journals, on the subject of "the ingrowing toe-nail," proposing a variety of painful operative procedures, such as removal of part of the nail, cutting off the everhanging edge of skin, cauterizing the fungous growth, as it is called, etc.; and I have seen so many patients who have suffered under this troublesome complaint for

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months, and even years, in spite of their having been subjected to much torture, under the hands of good, even most eminent Surgeons, that I think it right to bring before your readers a simple and effectual remedy. It is nothing more than a piece of silver, rolled out sufficiently thin to admit of being bent to the required shape, yet sufficiently firm to bear moderate pressure. This should be nearly the length of the nail, from a quarter to half-an-inch wide, and bent into somewhat of an S shape, or rather thus, . The lower end (*b*) is, with the aid of a pair of forceps, to be carried down between the overhanging ulcerated skin and the nail, and hooked under the rough edge of the latter. The upper end (*a*) is then carried outwards, and secured in that position by a strip of plaster, and a bandage round the toe. By this means, the inverted edge of the nail and the skin are effectually kept from one another, and pressed in opposite directions. The nail, is a little elevated, and the "fungous growth" very soon shrinks under the pressure of the metal, and assumes a healing aspect. Often, when the silver is well adjusted, the patient is able to walk about with comparative ease immediately afterwards. I do not interfere with it for several days, when a marked improvement is usually found to have taken place. The silver is readjusted with greater ease, and allowed to remain a longer time. Gradually the ulcer heals, and the nail grows up in more natural shape and appearance. It is well, however, to continue the use of the silver for some time; and, after the sore has quite healed, it is well to insert a piece of lint, or a small flat piece of silver, under the edge of the nail, to prevent the tender cicatrix being fretted by it, and to keep down the skin. The patient should be directed to avoid tight shoes, and not to cut the corner of the nail low down. In some bad cases, it has been necessary to keep the patient quiet, or in bed, for a short time; and, in a few, to prepare the way for the silver by the introduction of a piece of lint, secured by a strip of plaster.

There may be nothing novel in the plan here recommended, but it certainly is not known and adopted so generally as it deserves to be. It suggested itself to me when reflecting upon the nature and causes of the complaint, and endeavoring to find some better means of treatment for this very painful and annoying malady than those I had seen employed, feeling certain that the removal of the side of the nail, or any portion of it, which is usually done, must be wrong, for the simple reason that the skin soon occupies the vacancy so caused, and is most likely to be again fretted by the nail growing up into its former place. Since I adopted the above plan, some years age, I have found little difficulty in the treatment of these cases, have instructed some patients to carry our their own cure, and have not failed in a single instance. The size and exact shape of the piece of silver must, of course, be regulated according to the case, and a little nicety of manipulation is required to insinuate it between the ulcerating skin and the nail, and hook it under the edge of the latter, without inflicting much pain in the exquisitely tender state of the part.

I am, etc. G. M. Humphry.

Cambridge, June 27, 1855.

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Abstract of Meteorological Observations for June, 1855, made at Philadelphia, Pa. Latitude 39° 57′ 28″ N., Longitude 75° 10′ 40″ W. from Greenwich. By PROF. JAMES A. KIRKPATRICK.

1855. June.	Barometer. Daily Mean	Barometer. Mean Daily Range.	Thermom. Daily Mean	Thermom. Mean Daily Range	Dew Point 2 P.M.	Force of Vapor 2 P.M.	Rel. Humid. 2 P.M.	Rain.	Prevailing Winds.	Remarks.
	Inches.	Inches.	Deg.	Deg.	Deg.	Inches.	Hunds.	Inch.	Points.	
1	29.809	.235	70.3	3.2	62.6	.568	.67	1.600	SSE.	*Rain* all day.
2	29.657	.152	66.3	4.0	64.8	.613	.90		SSE.	*Rain* all day. [with th'der.
3	29.610	.047	66.7	3.7	62.6	.568	.67	1.237	SE.	Cl'y; aft. & night heavy *Rain*
4	29.659	.049	62.2	4.5	50.1	.362	.55		W.	M. and aft. cloudy; ev. clear.
5	29.751	.092	65.0	2.8	47.0	.322	.44		(Var.)	Clear. [and lightning.
6	29.826	.074	68.2	3.2	46.7	.319	.36	1.160	SW.	Cl'y; *Rain* at n't, with th'der
7	29.493	.332	72.2	4.0	67.6	.675	.60	0.456	SW.	M. *R'n*; aft. cl'y; ev. *R'n*, high wind, th'r. *Bar. l'st* 29.395.
8	29.591	.176	66.0	6.2	49.9	.359	.45		W.	Aft. cloudy; m. and ev. clear.
9	29.681	.090	68.7	2.7	49.5	.354	.42		(Var.)	M. cl'r; aft. & ev. cl'dy. [l'ng.
10	29.469	.212	72.3	7.0	64.0	.597	.53	0.586	(Var.)	Cl'y; *R.* all n't; 7 to 8 P.M. th. &
11	29.571	.124	68.3	8.0	49.2	.350	.45	0.351	W.	Cloudy; *rain* during night.
12	29.810	.239	64.3	4.0	41.3	.260	.38		NW.	Clear.
13	29.945	.138	64.3	3.3	47.0	.322	.44		NW.	Clear. *Th. lowest*, 51°.
14	29.822	.122	68.8	4.5	45.6	.306	.34		WNW.	Cloudy.
15	29.657	.166	72.5	3.5	50.1	.362	.37		W.	Cloudy.
16	29.634	.022	74.3	1.8	61.0	.537	.55	0.139	(Var.)	Cl'y; ev. & n't *rain*, th. & l'ng.
17	29.772	.164	69.7	6.5	51.9	.387	.58	0.682	NE.	Cloudy; m. *rain*.
18	29.943	.171	66.3	2.5	48.0	.335	.47		ESE.	Cloudy.
19	29.833	.114	60.0	6.3	56.4	.455	.88	0.220	NE.	*Rain* all day.
20	29.696	.134	69.0	9.0	65.0	.618	.76		(Var.)	M. and aft. cloudy; ev. clear.
21	29.742	.046	75.7	6.7	63.4	.585	.56		(Var.)	Clear.
22	29.644	.098	75.0	2.0	73.1	.813	.82	0.546	SSW.	Cloudy; aft. *rain*, th. & l'ng.
23	29.806	.162	77.7	2.7	67.3	.668	.61		NW.	Clear. [th'r & lightning.
24	29.723	.082	74.5	3.2	73.6	.828	.78	0.478	(Var.)	Cloudy. M. *rain*; night rain,
25	29.715	.068	76.3	4.5	69.3	.716	.77	0.553	SW.	M. *rain*; cloudy.
26	29.869	.155	79.7	4.7	66.4	.648	.59		SW.	M. and aft. cloudy; ev. clear.
27	29.957	.113	81.7	3.3	63.2	.580	.45		WSW.	Clear. *Bar. hig'st* 30.020.
28	29.886	.071	83.3	1.7	73.4	.821	.62		(Var.)	M. and aft. cloudy; ev. clear.
29	29.833	.052	88.0	4.7	73.7	.831	.51		(Var.)	Aft. cloudy; m. and ev. clear.
30	29.774	.059	88.7	1.3	77.5	.941	.61		(Var.)	M. cl'r; a. & e. cl'y; *Th. h'st* 95°
Means for June, 1855	29.739	.125	71.9	4.2	59.4	.537	.57	8.008	S. 76° W., 46–100.	
4 yrs	29.849	.103	72.2	4.3	54.8			4.250	S. 72° W., 46–100.	

The Monthly Range of the Barometer was 0.625 of an inch., and of the Thermometer 44°.

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THE

MEDICAL EXAMINER.

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ORIGINAL COMMUNICATIONS.

The Plague, its Origin and Disappearance.

By Aug. Theod. Stamm.

It is the object of this paper to give some information of the most destructive of all diseases—a disease which for centuries and centuries, resisting the efforts of the most learned physicians, has produced the greatest misery and many scenes of deepest immorality and degradation. No one has yet explained the total disappearance, for the last ten years, of this scourge; neither has the real place of its origin ever been demonstrated. I do not pretend to know the nature of the specific plague poison; no one has yet recognised its essence. But from my own observations in the native country of the Plague, I hope finally to prove where this poison was year after year generated, and by what means it has been eradicated.

The Plague, λοιμος, Pestis seu Pestis bubonaria orientalis, Typhus pestis seu Typhus pestilentialis, die Pest, la Peste, Typhus d'Orient, Peste, Pestilenza, Pestilencia, etc., was a disease chiefly at home in Syria, Asia Minor, European Turkey and Egypt, but often spreading over the whole coast of the Mediterranean, and even over the whole of Europe, penetrating far into the interior of Russia, and when once there unchecked by the northern winter of Moscow.

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It is difficult to decide whether the Plague be identical with the epidemics recorded by Moses, David, Homer, Thucydides, Herodotus, Dionysius of Halicarnassus and others, or whether the beginning of this disease may be found in the Justinian Plague, which from 542–594 raged almost without interruption in all parts of the Roman Empire, because in these old writers the symptoms are not described with such accuracy as to arrive at quite certain results.

Thus much we know for certain, that since the time of the Justinian Plague the disease has repeatedly visited not only large countries, but almost the whole of the old world, and only since this time it seems to be characterized by buboes; and after once having adopted this form it appeared indestructible, raging for more than a thousand years, and in some places never disappearing.

I do not intend to enter here into a minute description of the Plague, but only mention that it is a fever of the most aggravated kind, chiefly characterized by buboes or inflammation, swelling and suppuration of the lymphatic glands, although, according to the special properties of the disease, many varying symptoms have been observed; thus at the commencement of the Plague, cases occur where nothing is to be observed but the symptoms of a severe typhus fever, the patient generally dying in the course of a day, or from apoplexy (apoplexia pestilentialis) after a few hours of great prostration, whilst towards the end of an epidemic it assumes often such a mild form that a slight swelling of the lymphatic glands and a mild fever is all that can be observed.

Those who want more accurate information of the different forms and symptoms may find it in the writings and reports of Thomas Sydenham, Heberden, Diemerbrock, Nathan Hodges, Pestalozzi, Chicoyneau, Beerwinckel, Rothman, Melzer, Patrick Russel, Mead, Chirac, Enrico di Wolmar, Verney, Deidier, Bertrand, Souliers, Clot-Bey, Bulard, Lachèze, Gaetani-Bey and numerous other medical men, many of whom not only treated and observed the disease, but in their heroism and scientific zeal exposed themselves with undaunted courage to the danger of post mortem examinations.

The treatment of the Plague.—The opinion of physicians in regard to the treatment of the Plague, were but too often in con-

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tradictory opposition. The antiphlogistic method had a most celebrated defender in Thomas Sydenham; but, after more accurate inquiry, it was found to be erroneous. Chicoyneau, as well as Audon, Deidier, Verney and the other physicians at Marseilles, were much opposed to this method. Russell and Enrico di Wolmar did not reject bleeding, but whether they ever derived real advantage from it, remains, at least, very doubtful. Palloni was in favor of calomel; but, according to Bulard, calomel is always thrown off without effect, by vomiting or stools. Paris thinks that nothing but cold water should be employed. Savaresi, Bulard, Pugnet had recourse to a slightly stimulating system, and tried ether, alcohol, camphor, ammonia, etc., but success did not recommend these remedies.

The system of evacuating the stomach and bowels has, if properly administered, frequently proved beneficial; emetics and strong cathartics, given at the beginning of the disease, have been considered the best remedies. The diuretics have been recommended by Sydenham to be employed in combination with the antiphlogistic treatment; and Mead is also a defender of the diuretic method. The invigorating system in which the cordials were used had for some time a great reputation, but from their want of success their use was quite abandoned. Narcotics, too, have been tried; opium, strychnia, lactucarium, and belladonna have been given. Dr. Aubert prescribed Hachisch in the Egyptian Plague of 1833. Frictions with oil and various other treatments have never done very much for the cure of the disease. In the treatment of the buboes and carbuncles, science was likewise at fault, and did not yield successful remedies; the simple chirurgical method has proved as good as any other. But, however treated, about two-thirds of those attacked have always died. Emetics and cathartics, given at the beginning, cleanliness, cold water and demulcent drinks would probably, if generally employed, have yielded the best results. The poison once generated, is mightier than all the remedies used against it, and coming like a scourge upon careless man, should teach him that the great aim should be prevention rather than the cure of disease.

The generating of the Plague.—Great aridity after copious rain and inundations, winds constantly blowing from the same direction, sudden change of the seasons, scarcity of food, etc.,

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have been found concurrent with the entrance of the Plague, and the variation of those conditions seemed often connected with the course and character of the disease. But how uncertain such indications are, is manifest, if we consider that frequently in the midst of prosperity, and during the most agreeable weather, the Plague attacked populations quite unconscious of the dreadful evil so near them. Such striking contrasts annihilated all theories in reference to its generation, and, at those times, when, during shorter or longer intervals, the disease was spread over the whole of Europe, the people were lost in the most uncertain conjectures.

At last the more civilized nations of Europe inclined to the opinion that the East and Egypt were the principal countries of the Plague, as this epidemic was found to be endemic there, even at times when the more cultivated and cleaner parts of Europe were exempt; and as the intense contagious power of this disease had manifested itself most terribly, and cases of plague frequently occurred in consequence of the intercourse of men and the exchange of merchandize along the infected frontier, it was resolved that, in order to prevent its introduction, the quarantine should be established, and that if the disease should, notwithstanding, be introduced, a *cordon sanitaire* should be drawn around the infected district—measures which were executed with the approbation of the inhabitants, who were in constant dread of an outbreak of the epidemic.

After this it became evident that the plague-poison came always from the East and Egypt towards the protected frontiers, whilst formerly it wandered through Europe in all directions, longitudinally and latitudinally.

This is in itself sufficient to contradict the views of ancient and modern physicians, who wish to maintain that the disease is alone dependent upon the condition of the atmosphere and the change of weather and season.

The real sphere of action for the Plague being in this way confined to the East and Egypt, that is to say to the Turkish Empire, in which no mutual quarantine existed, the controversy sprung up where, in this Empire, the exact spot for generating the disease was to be found.

The lower part of the Danube, Constantinople, Smyrna,

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Trebisond, the capitals of Barbary, Cairo, etc., were distinguished as places where the Plague was chiefly at home, and one of the cities often accused the other of being the generator of the epidemic.

Egypt, which exhibits so many peculiarities in its natural conditions, had indeed for a long time been looked upon as the native place of the Plague, but even sensible and learned writers opposed this view; thus, Prosper Alpinus says that the Plague is imported into Egypt from Greece, Syria and Barbary, whilst Volney, Enrico di Wolmar, Olivier and others thought that the real seat of this disease was to be found at Constantinople, because there it was never quite extinguished for any length of time.

The controversy where in the Turkish Empire the Plague was generated became the more confused the more interest the inhabitants of each city and country had in clearing themselves from such a reproach. The disease indeed usually came from Alexandria to Constantinople, still several instances occurred where Alexandria was infected by Constantinople. Yet at last the opinion gained ground that, however favorable to the Plague was the filth of Constantinople and other places, it could there only be considered as an exotic, indigenous to and coming from Egypt. Thus L. Ch. Roche wrote an article in the *Dictionnaire de Médecine et de Chirurgie pratiques*, t. xii. 1834, by which he tries to prove that the plague is indigenous to the country of the Pharaohs, citing, in his favor, the opinions of Desgenettes, Larrey, Pugnet, Savaresi, (physician to the French-Egyptian army,) Pariset and Lagasquie, (members of a commission in the year 1828, sent by the French government for the study of the disease,) Paris, Fodéré, etc.

But if, according to the opinion of most physicians, we have to accept Egypt as the country whence the Plague has most frequently extended itself; the question again arises if in Egypt the cause at once originated all over the land, or if it spread from certain fixed points. In reference to this question, it becomes evident, after earnest inquiry, that during past epidemics, Cairo and the villages of the Delta, near this city, were generally attacked first and suffered most. The reason of this phenomenon may easily be found in the condition and situation of the place.

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Cairo has several hundred thousand inhabitants. Before the watering and sweeping of the streets was introduced by the vice-roy Mehemed Ali, they were full of filth. A canal which goes through the city and receives all kinds of refuse was very much neglected; its borders had always been considered as most unhealthy and most frequented by the plague. Moreover, Cairo was surrounded with an almost complete circle of hills, 150 to 300 feet in height, and where these ceased, by a projection of the Mokattam mountain. Thus purifying winds were cut off from the city. The disease always appeared after the receding waters of the Nile had left much animal and vegetable matter decaying and producing miasmata under the combined influence of heat and moisture, and after raging several months, disappeared with the Nucta, (a heavy dew,) and the scorching rays of the June sun. Nowhere, throughout Egypt, was the generating of such miasmata more favored than in and around Cairo; the refuse of several hundred thousand inhabitants, the neglected canal, and a marsh near the city, exhaled their poisonous gases, which, at once, ripening in this basin surrounded by hills, seized upon thousands of people, whose neglected corpses increased the corruption of the air. In this way, first Cairo and the villages around it were desolated, then other parts of Egypt, the Turkish Empire, and before the introduction of the protective quarantine and *cordons sanitaires*, almost the whole of the old world; the disease travelling in all directions, communicating itself to healthy places. Thus the Plague of Marseilles infected other parts of the province and southern France, but it came, nevertheless, originally, from Egypt to Marseilles.

The disappearance of the Plague.—Mehemed Ali gave orders to clean the city, and to water and sweep the streets every morning, but the state of health did not materially improve. It had already been remarked by physicians of the army at the time of the French-Egyptian expedition, that the encircled position of the city, combined with other unfavorable circumstances, must be very unhealthy. Advisers of Mehemed Ali repeated the remark, and the vice-roy, who was a tyrant, but seldom shrinking from the extent of an enterprise, took the bold resolution of carrying down a large portion of the earthy hills into the lowest fields, which, after having sufficiently elevated, he intended to water artificially

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and to convert into beautiful gardens. As once the Pharaohs dragged thousands of men to the erection of temples and pyramids, so Mehemed Ali forced thousands of fellahs (Egyptian peasants) to execute his gigantic plan.

Many died under the excessive labor, but the ranks were filled by others, and the work itself was always advancing. Thus a long chain of hills was carried down and miasmatic fields converted into charming olive and fruit gardens. And as the work progressed, the health of Cairo improved. Already in 1843, but a few cases of Plague occurred; and the disease, no longer brought from Egypt to other parts of the Turkish Empire, disappeared. At the end of the year 1844, while in Egypt, I could find no plague, and only a few cases of slight swelling of the lymphatic glands. I was assured that the disease would certainly reappear in the beginning of 1845; and going to the southern parts of the country, I expected, at my return to Cairo, to find it; yet since that time there has been no return of it. All this shows, conclusively, that Egypt was the real seat of the pestilence; and that not the whole country, but this encircled spot, at the beginning of the Delta, generated this dreadful disease. Its disappearance, after the falling of the Nucta and the entrance of the summer-heat, is also easily to be understood, if we observe the natural phenomena. The falling dew purifies the air, and the excessive heat immediately following, dries up all the vapors and all putrid matter, scorching over dead bodies and rapidly converting decaying matter into a mere powder.

Yet I do not mean to say that this or a similar epidemic might not, under favorable circumstances, find its origin also in other southern countries, chiefly where war is raging, where food is scarce, where swamps abound, or swarms of dying locusts and other impurities poison the air; but I assert, man has it always in his power to prevent the disease. War and uncleanliness can be avoided, food can be provided by wise measures taken in time, swamps can be drained, the locusts can be buried in the earth, thus doubling the fertility of the soil. Mehemed Ali has proved what can be done even under the most unfavorable circumstances, by his grand and energetic measures in improving the health of one city; and by thus destroying the germ of this most

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destructive of all diseases, he has unconsciously saved the lives of millions.

May the extirpation of the Plague contribute to extend the application of the great principle, that the best remedy for diseases and for all other evils, is their prevention rather than their cure.

On the use of the Ammonio-tartrate of Iron. By WILLIAM GRIES, M. D., of Reading, Pennsylvania.

In August, 1851, I received under my care a delicate little girl, 3 years of age, affected with erysipelas over the left hip. She had been, during a year before, very thin in flesh, pale, and much troubled with uneasiness in her bladder, attended with sabulous phosphatic deposit in her urine. When I was requested to attend her for the erysipelas, I found her with high fever and very prostrate. I gave her purgative medicines to correct the secretions of the digestive organs, and soon commenced giving her a solution of ammon. tart. of iron, in 2 gr. doses, every three hours. I had for a long time before this treated erysipelas with sulph. quinia administered freely after mercurial purgatives, and alkaline salts to restore or correct the various secretions. In this case I was prevented from giving the quinia on account of the difficulty there was in giving her any medicine. The comparatively pleasant taste of this preparation was its first recommendation to give it in this case as a tonic, and her previous state of system I thought strongly indicated the use of iron. The duration of the disease was from the 25th of August to the 8th of September. It spread over the whole body, from the left hip down to the foot, and up to the scalp, and thence extended over the whole of the right side. On the parts first invaded it produced vesication, but after twenty-four hours use of the iron I found the extension of the inflammation less and less severe, so that, at last, it was a mere slight erythema. Besides the iron I used no medicine internally, except an occasional small dose of hydrarg. c. c. To prevent the parents from resorting to any external application, I applied, very thinly, tinct. iodine of half the officinal strength. I thought that it might do some good as a counter-stimulant, and not act as a repellent, which I have a terror of, from former sad experience,

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of which I shall say something in the sequel. As every one knows, erysipelas is a disease of the whole system, and its external manifestation is only the elimination of the poison from the body. My little patient has since enjoyed excellent health, free from every symptom of her former complaint.

On the 31st January, 1852, I received part 24th of Braithwait's Retrospect, in which I found a statement of the remarkable success obtained by G. Hamilton Bell, Esq., in the treatment of erysipelas by the use of the muriated tinct. of iron. When I compared this account with my case, stated above, and considered the favorable report of M. Velpeau, on the local treatment of the disease by sulphate of iron, I concluded that it was the iron introduced into the circulation that was of benefit. Notwithstanding this opinion, when, in February following, I took charge of a severe case of the disease, in a robust man about forty years of age—from the authority above mentioned—I commenced the treatment with the mur. tinct. of iron, but I soon found that my patient could not bear the use of it, in sufficient quantity. It produced a severe burning sensation in his stomach and bowels, attended with vomiting and purging; I therefore substituted the amm. tart. of iron, in 4 gr. doses, every two hours, and soon found so much improvement as to encourage me to continue it, and my patient was soon restored.

Since then I have had the opportunity of using the remedy in this disease very extensively, and always with success, except in two cases of infants within the second week of their birth.

In the latter part of the winter, and in the spring of 1858, I had under my care many cases of typhoid fever, and in every instance I found more or less of inflammation of the pharynx, simulating erysipelas: this I treated, locally, with lunar caustic. I lost two of my patients; and these in consequence of the pharyngitis extending down the œsophagus, producing dysphagia.

Reflecting on the remarkable success I had in the treatment of erysipelas, with the iron, I determined, thereafter, if any case of typhoid fever presented itself with erysipelas, I would give an early trial to this remedy.

It appeared to me that there was sufficient similitude between the two diseases, taking into account the general symptoms, and the peculiar local affection of the glands, in typhoid fever, (I do

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not pretend to say there is an identity) to warrant the use of it. The proximate principles of its composition are constituents of the body, in its healthy state, and therefore not poisons to it, as some of the prominent remedies recommended, such as superacetate of lead, sulphate of copper or nitrate of silver.

I have searched much for authority to use the iron according to my views, but could find nothing but warning, against the use of it in any disease where there were remains of inflammation in the stomach and bowels, and this is the condition in typhoid fever. When our old treatises on Materia Medica were written, the ordinary preparations of iron in use were the carbonate, the muriated tinct. and the sulphate; the first is objectionable on account of its bulk and its earthy parts, and the two latter are caustic irritants; whence these warnings; and later writers have generally copied these. The ammon. tart. is perfectly soluble, of little taste or irritating properties.

When I reflect that mineral solutions are the chief remedies in inflammation (when the acute stage is passed) of the mucous membrane, wherever we can reach it—in the eye, mouth, vagina, urethra, &c.—I feel a confidence that they may be applied to the same membrane in the stomach and bowels, under the same circumstances, when the articles are of such a nature that we rather desire than dread their absorption.

Since the latter part of last April, a considerable number of cases of typhoid fever have come under my care, generally of a mild character; and one of the first was a robust man about 40 years of age, a carpenter by trade. It came on in such an insidious manner that he thought it was "only a cold," and that he could work it off by taking some patent purgative pills, and continuing at his trade. I was not called till about the tenth day of the disease, when I found him very prostrate. I gave him dilute sulphuric acid, occasionally a dose of blue pill, and ordered ale and porter to be used pretty freely; but in a few days he got an aversion to these drinks, and I substituted brandy and water with sulph. quinia, but neither seemed to agree with him; then I carried out my theorizing, and withheld all other medicines, and commenced with the iron, four grains every four hours; in 48 hours I found such a marked improvement that I felt warranted to persevere. Moreover, my patient expressed

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himself, decidedly, that this medicine did him more good than any that he had taken. I have, since then, applied it in every case, after using some mercurial purgative of a mild character and dose, and the dilute sulph. acid, until the pungent dry heat of the skin had somewhat abated, although the tongue was furred and dry. Where there was marked epigastric tenderness I first had leeches or cups applied, followed afterwards, during the use of the iron, by poultices sprinkled with spirits of turpentine.

Among all the cases presented to me this season, only two had any thing of external erysipelas, and one of these was in the hands of another practitioner for some time, with severe phlegmonous erysipelatous inflammation of the left wrist and hand, the result, as was supposed, of a puncture of a needle at the wrist, part of which had broken off and remained imbedded. When I saw the case I felt persuaded that it was idiopathic typhoid fever, and that this state of the system determined the unhealthy character of the inflammation. The hand looked nearly gangrenous; it had been lanced at three different places, and I opened a deep seated abcess on the back of the hand, which discharged ichorous pus freely. We agreed to apply to it a poultice of linseed meal and brewer's yeast, and to give the iron internally. The general health and the local affection soon improved, and the patient recovered rapidly.

My own conviction is, that all my typhoid fever patients convalesced and recovered much more pleasantly and rapidly than under any other treatment that I had ever pursued before. Its ordinary effect upon the bowels is to constipate, but it has appeared to me, that in this fever, where there is a tympanitic condition of the bowels, it purges at first; and this, I believe, is in consequence of its tonic effect upon their structure, for the tympanitis disappears with the purging.

In 1837, between the 26th of January and the 13th of April, I had in one family five patients with typhoid fever. First, the father and son were taken; then another son; then a hired girl; and, at last, the mother, who had attended on all the others. The four first all recovered, but the last died on the eleventh day of her sickness. (I write from memory and my account book.) A few days after the invasion of her disease erysipelas appeared on one side of her face, to which I applied a solution of bichloride

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of mercury, two grains to the ounce of water; in twenty-four hours the inflammation had receded from the face and fixed on the pharynx and posterior nares; I applied an epispastic on the back of the neck, but the inflammation extended through the whole of the cavities of the nose, and, as I had sufficient cause to believe, into the ethmoidal and sphenoidal cells, accompanied with such a profuse flow of irritating mucus from the posterior nares as frequently threatened to strangle her. The inflammation extended to the membranes of the brain, followed by convulsions and death. This determined me *never to use repellents in erysipelas.*

Since I have commenced the use of this preparation of iron, I have cured, with it alone, two severe cases of chorea; one, a girl of 11 years, and the other of 18 years. I have used it also in several cases of disease of the joints, with marked benefit, and in diseases of females, such as chlorosis, neuralgia, and all cases of debility, preferring it to all other tonics, in a general way. In order to make some estimate of the extent of my use of it, I may state, that I have used at least eight pounds in my practice alone; and my practice is not very extensive, for on account of my own bodily infirmities I have to refuse many calls.

In a few cases of intermittent fever I have given it to prevent relapses, and to all appearance with benefit. Though of this I would not speak very positively, because I have, during this period, not had many cases to treat.

My mode of administering it is dissolved in water, either simple or aromatic; ordinarily I use cinnamon water, where not contra-indicated. It makes a perfect solution, having all the physical properties desirable in a medicine. Others may find other preparations of iron equally applicable and effective; I will not dispute with them. I have occasionally, but very seldom, combined with this solution chloric ether, hydrocyanic acid, tincture hyoscyamus, &c., chiefly in severe hysteria.

I have repeatedly mentioned my use of this remedy before our County Medical Society, but I am not aware that more than one of our members has used it, and his experience fully corroborates mine, as far as it goes. I have no doubt that if it had the prestige of some professor's name to commend it, it would have attracted more attention.

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I feel persuaded that more than one, reading this, will exclaim, "Riding his hobby to death." I will not be offended with him, for, I fear, I should do the same under similar circumstances. Who has not his hobby? It must be he that cannot ride at all.

Case of Extensive Comminuted Fracture of the Cranium, with Recovery. By H. P. C. WILSON, M. D., Physician to the Baltimore City and County Alms House.

We present the following case to the profession as one of peculiar interest. A boy, 8 years old, falls head foremost upon the pavement from the third story window of a house. The whole back part of the cranium is fractured and driven in upon the brain. Two inches square of bone are removed. The other fractured and depressed portions are accurately adapted, and the boy is well in four weeks from the receipt of injury. It is instructive in the lesson of the great amount of injury that may be received by the head and yet recovery follow; and as teaching a guarded prognosis in even the most desperate cases. It is no less instructive in the intimate relation between incipient ptyalism and returning consciousness. Whether it was post hoc and propter hoc I shall not attempt to say. The patient was treated actively with mercurials, and the result was most happy.

G. L., step-son of Mr. N., Saratoga street, Baltimore, aged eight years; health good, of robust constitution. Was called to see him May 31st, at 9 o'clock in the evening. Had just fallen from the third story window of a house upon the pavement.

I found him lying upon a sofa, icy cold, pulse rarely perceptible and intermittent, respiration slow, stertorous and irregular, pupils well dilated and unimpressible to light, perfectly insensible to all external impressions; has occasional emesis.—Examining the cranium, found fracture. No external wound except a small scratch. Back of the head completely flattened, the result of the blow.

I proceeded at once to cut down on what appeared to be the centre of fracture, which was about the point of union between the upper angle of the occipital and two parietal bones. I made a horizontal incision around the head, six inches in length, and another at right angles to the first, five inches; dissected back

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the flaps, and laid bare a comminuted fracture of the cranium, with the fractured portions driven in upon the brain. Dividing the periosteum, I removed two segments of bone, either of which was about one inch square. Four main fractures proceeded from this central point. One upwards and forwards across each parietal bone to about the parietal protuberance, (from either of which branched off several smaller fractures,) and two running downwards on either side of the middle line of the occipital bone, parallel to each other, and extending apparently to the foramen magnum. I did not venture to trace the whole extent of these fractures. The segment of bone dividing them was perfectly loose, so that seizing the upper extremity I was enabled to move it backwards and forwards with ease; but as it did not press upon the brain I desisted from any attempts to gratify curiosity, as to the extent of these fractures and the size of this segment. After removing the two pieces of bone mentioned above, I succeeded, without much difficulty, in inserting a loop under the remaining portions of the cranium pressing upon the brain, and with my finger as a fulcrum, dilated them and relieved their pressure. With the handle of my scalpel I removed all the accessible coagulated blood upon the dura mater, (this membrane being nowhere ruptured). I then drew the four flaps together at the point of intersection of the two incisions by two sutures, and applied no other dressings than a folded cloth dipped in cold water, and held in position by a bandage, thus allowing the incisions to pass freely, and give exit to any discharges that might be poured out from the seat of injury.

He was then removed to bed; hot water in bottles applied to his feet and body, and a little brandy administered from time to time. Reaction came on; pulse better; respiration easier. I left him for the night, with instructions that the dressings to his head should be kept wet with cold water: the brandy and bottles of hot water to be used or withheld, as the surface became cold or hot.

June 1st.—I am told this morning that our patient has spoken, and called persons by name, previous to my arrival. I find him however perfectly insensible, without any ability to be aroused. Pulse 120, small and quick; skin pleasantly warm; respiration easy; pupils dilated and unimpressible to light. Ordered hyd.

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protochlo. grs. ij; potas. nitrat. grs. iv; pulv. ipecac. gr. ½ ter die; as an antiphlogistic, and also as a sorbefacient to the bloody coagula upon the brain. To be fed with ice, which he took with great avidity. Head dressings to be undisturbed, and kept wet with cold water. Six o'clock P. M.—About as in the morning. Powders had given several alvine evacuations and vomited once; were discontinued, and friction with mercurial ointment substituted.

June 2d.—Still lying in a stupor, as if in a profound sleep. Pulse fuller and stronger, and 120. Ordered hyd. protochlo. grs. ij; potas. nitrat. grs. iv; acet. plumbi gr. ½, ter die. Dressings removed for the first time. Nothing of note about the wound. Similar dressings reapplied, and same treatment continued.

June 3d.—Still in a stupor. Has shown no evidence of sensibility or consciousness of things around him since the morning after receiving the injury, and then it was only imperfect and temporary; but a flash of intelligence. To-day, however, I observe that his pupils, which have been uninterruptedly dilated, and without any impressibility to light, show evidences of contraction on passing a bright light before the eyes. Other symptoms unaltered; treatment unchanged; dressings undisturbed.

June 4th.—Pupils contracted and dilated freely under the influence of the presence or absence of light. Spoke on strongly arousing his attention, but at once relapsed into a comatose state, until another strong impression was made upon him. No evidences of inflammatory action about the wound. Water dressings re-applied and same treatment continued.

June 5th.—Found G. L. with his eyes open, taking notice of things around him. Answered when spoken to, and asked for what he wanted. Was lying very much as a child who is weary. Pulse 100, full but soft. Wound looks pale. No granulations thrown out, and no union taken place. Allowed crackers and tea and gave castor oil ʒij. Previous treatment continued.

June 6th.—Still improving. Mind perfectly clear and evinces great intelligence. Playing with things around him. Is anxious for food. Complains, however, of sore mouth. Submaxillary glands a little tender, and increased secretion of saliva. Is slightly ptyalized. Has been taking calomel grs. ij. ter die, and

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using inunctions of mercurial ointment since the day after injury. Powders stopped, and the oil of yesterday, not acting, was repeated to-day. Is allowed some ice-cream, tea, toast and crackers. Solution of borate of soda, as a mouth wash. Wound looks pale and sickly. Stopped water dressings and applied a mutton-tallowed cloth and bandage. The cranium is seen bare through the gaping incisions.

June 7th.—Wound looks more healthy. Pulse good and 100. Shows much playfulness. Oil acted well. Is allowed soup, a soft-boiled egg, ice-cream, bread and tea. Other treatment unchanged.

June 15th.—Two weeks after the receipt of injury. A daily report has been omitted, because since June 7th the case has presented no symptoms worthy of note, and the treatment has been unchanged. Our patient has been going on steadily to improve. Is allowed a full nutritious diet. Wound dressed twice daily as heretofore. A good portion of it has healed by granulations, which are every where rapidly closing over the denuded bone. He is dressed and amusing himself with his playthings about the room.

June 22d.—Three weeks after injury. Is running about the house. Two arms of the crucial incision healed. Cranium visible but at one point, and here barely perceptible. Every where else covered by granulations. Has been on no treatment since 15th, except to dress head once daily as heretofore.

June 29th.—Four weeks after injury. Is no longer confined to the house. Meets me to-day on the pavement. Wound covered with cuticle, except a couple of small spots. Granulations being a little exuberant at these points, are touched with sulphat. cupri., and my patient discharged.

July 26th.—Saw G. L. on the street. Is perfectly well, with nothing to tell of his imminent peril and frightful injury but a firmly united cicatrix.

Baltimore, August 8th, 1855.

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Case of Induction of Labor at the Seventh Month, by the Water Douche. By ANDREW CHEESEMAN, M. D.

In the month of November, 1853, I attended Mrs. L., residing in Kates street, in her first confinement. There was contraction at the inferior strait; the transverse diameter being 2 inches. After a severe labor of 48 hours the head was perforated and with considerable difficulty a large child was extracted. Vaginitis, supervened and her recovery was tedious. Being informed of her unfortunate condition, she promised if again pregnant, to give me early intimation of the fact; and accordingly in June last told me that her last menstrual period terminated on the 5th of January, and she had quickened in the last week in April. With her consent I determined to induce premature labor and to adopt the method of Prof. Kiwisch, of Wurtzburg.

August 10th, 4 o'clock, P. M.—Touched and found the os high up and undilated. Placing a bucket about four feet above the bed on which the patient lay, by means of a few feet of india rubber tubing, terminating in a nozzle, and used as a syphon, I directed a small stream of tepid water on the os uteri for 20 minutes, using in that time six gallons of water. She complained of no pain or uneasiness, and on examination I found no perceptible alteration in the parts.

August 11th, 9 o'clock, A. M.—I found, to my surprise, that my patient was in labor, the pains having commenced at 7 o'clock this morning. On touching I found the os quite low down an inch and a half in diameter, and the membranes protruding strongly. Repeated the douche for 15 minutes.

11 o'clock, A. M.—Os uteri fully dilated. Membranes filling the vagina and reaching the vulva.

12 o'clock, M.—Membranes ruptured. Feet presenting with toes to the pubis and the cord prolapsed. The body was slowly delivered without difficulty, and the right arm and shoulder came out from under the pubic arch; but the left shoulder and arm caught behind a strong transverse band (a result, doubtless, of the vaginitis following the previous labor,) which extended from side to side of the pelvis across the lower part of the sacrum, firm and tense, with a sharp crescentic edge and fully three quarters of an inch broad at its middle. It was with some dif-

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ficulty that I carried the arm over the face and brought it down, during which operation the child gasped strongly twice. The mouth and afterwards the nose caught on the same obstruction, and I was compelled to use the rectis in order to relieve and extract the head. The child was still born. The placenta followed in two or three minutes.

The chief points of interest in this case are the ease and promptness with which labor was induced, and the obstruction that impeded its progress. In all the cases I have seen noticed in the journals, the number of applications of the douche, and the time required to bring on the labor, was much greater than in this case; when the process commenced in 15 hours and terminated in 20 hours after the first application of the douche, and proceeded so far before the second application that it is doubtful whether more than the first was necessary. The unfortunate presence of the obstructing band, and the presentation of the feet, frustrated the chief end for which the labor was prematurely induced. Had the head presented, or with the feet presenting had there been no unusual impediment, I feel assured that the child would have survived the labor.

[The injection of water into the uterus, as a means of producing premature delivery, has been known, we have reason to believe, in this country for some time, though no cases that we are aware of have been recorded illustrative of its use. In a work, however, on Materia Medica, by Dr. J. B. BIDDLE, of this city, published in January, 1852, we find among the uses of *cold water* the following:—"Cold water, injected into the impregnated uterus, is among the most certain means of inducing premature delivery."—ED. EX.]

Creatine in the Urine.

By J. CHESTON MORRIS, M. D.

Though long acknowledged as a normal constituent of the urine, the first notice of creatine in pathological conditions appeared in the June No. of the Examiner, in a letter from Dr. Miltenberger of Baltimore to Dr. Neill of this city. That it should not have attracted earlier the attention of microscopists in urinary examinations, is easily accounted for by its ready

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solubility and the small proportion in which it exists. Liebig thought that the substances taken for lactic acid in the urine were in reality creatine and creatinine, (which differs mainly from the former in containing two equivalents less of water, and in its greater solubility,) and estimated them as constituting about 0.15 per cent. of normal urine—nearly equal to the quantity of uric acid. Like urea and uric acid, creatine is probably derived from the decomposition of muscular tissue: it is readily obtained from the juice of muscles, and has been detected in the blood by Robin and Verdeil. In cases therefore of muscular waste, nothing is more reasonable than to expect to find it in the urine. As it is soluble in 70 parts of cold and much less of boiling water, we cannot expect to meet with it deposited in fresh urine; but in evaporated urine I think I have met with it. In looking for it, the edges and corners of the cover-glass should be carefully examined, and, as Dr. Miltenberger suggests, after the specimen has been prepared for a day or two. The crystals are remarkably permanent, and correspond closely to the figures of creatine given in Funke's Atlas of Physiological Chemistry. It has been suggested that they might prove to have been cholesterin, or chloride of sodium; but their shape and appearance preclude the former doubt, while a drop of a solution of nitrate of silver instantly decides the latter. A granular brown matter takes the place of the crystals of chloride of sodium, while creatine remains nearly unaffected.

In recently examining the urine of B. P., a blacksmith, aged about 45, I found, after two days, crystals similar to those found by Dr. Miltenberger, (of which he has kindly furnished me a specimen,) situated in the position I have mentioned, viz., at the edge of the cover-glass. This man has suffered under the phosphatic diathesis for nearly three years, but has been relieved by the use of alkaline diluents. In this case we may, I think, attribute the presence of creatine to the incessant draught made upon his muscular system by his occupation.

We need more light on this subject from general experience, however, before any sound views of its pathology can be developed, or rational plan of treatment be deduced.

Philada., Aug. 11th, 1855.

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Meteorology—Mason's Hygrometer.

By James A. Kirkpatrick, A. M.

The *Force of Vapor*, *Relative Humidity*, and *Dew Point*, may all be calculated from the indications of Mason's Hygrometer. This simple and convenient instrument consists of two thermometers whose indications agree perfectly, when they are both dry. One of the thermometer bulbs, however, is kept wet, by a piece of thin muslin, the end of which dips into a fountain of water, similar in construction to the fountains attached to bird-cages. This permanent fountain constitutes the principal difference between Mason's Hygrometer and August's Psychrometer. The water evaporating from the moistened bulb, lowers its temperature, in proportion to the rapidity of its evaporation, and thus gives the means of obtaining the most important results.

From experiments carefully made, it has long been ascertained that the vapor of water, filling any space to saturation, exerts a certain expansive force, pressure, or tension, which varies with the temperature of the air. This is called the Maximum Tension or Elastic Force of Vapor of Water, for that particular temperature. For instance, it has been found that for 3°.2, F., the Maximum Tension or Force of Vapor is equal to $\frac{1}{20}$ of an inch of mercury; for 18°. 3, to $\frac{1}{10}$ of an inch; for 32° to $\frac{18}{100}$ of an inch; for 40¼° to ¼ of an inch; for 59° to ½ an inch; for 79°.3 to 1 inch; and for 101°.4 to 2 inches of mercury, &c. From these experiments a table of the Maximum Tension, or Elastic Force of Vapor, has been constructed by Regnault, and published by the Smithsonian Institution, but in French measures,—that is, the temperature is expressed in Centigrade degrees, and the height of the mercurial column in millimetres. I find, however, that Prof. Boye in his small but valuable treatise on Pneumatics, lately published, has converted these French measures into English inches and Fahrenheit degrees. With the use of this table, and the following formulæ, the Force of Vapor existing in the atmosphere, the Relative Humidity and the Dew Point, quantities always interesting to the meteorologist, may be easily and accurately calculated.

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Let t, represent the temperature of the air in Fahr. degrees, as indicated by the dry-bulb thermometer.

t', the temperature indicated by the wet-bulb thermometer.

f, the Force of Vapor in the atmosphere at the time of observation;

f', the Maximum Tension in inches of mercury, for the temperature (t') of the wet-bulb thermometer, as exhibited in the table;

f'', the Maximum Tension for the temperature (t) of the dry-bulb thermometer;

d, the Dew Point, at the time of observation;

h, the Relative Humidity; and

b, the height of the mercury in the Barometer in English inches. Then

To find the Force of Vapor.

$$f = f' - \frac{0.480\,(t-t')}{1130-t'}\,b.$$

If, however, the temperature is below the freezing point, and the wet bulb is covered with a film of ice the formula becomes

$$f = f' - \frac{0.480\,(t-t')}{1272.2-t'}\,b.$$

By *Relative Humidity* we mean the proportion which the Vapor of Water, existing in the atmosphere, bears to the maximum quantity, or the quantity necessary for saturation at the existing temperature. That is, a Relative Humidity of .55, means, that the atmosphere contains $\frac{55}{100}$ of the quantity of vapor which, at the existing temperature, is necessary to saturation.

To find the Relative Humidity.

$$h = \frac{f}{f''}.$$

To find the Dew Point.—As the force of vapor in the atmosphere, at the existing temperature, must be the same as the maximum force corresponding to its dew point, or *the tempera-*

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ture at which vapors begin to condense like dew, on any cold surface, it follows that the degrees of temperature in the table of Maximum Tension corresponding to the force of vapor (f) in the atmosphere, will be the Dew Point. It is in this way that the Dew Point has been calculated for the Medical Examiner for the last two months.

To illustrate these formulæ, let the dry bulb be 85°, the wet bulb 74°, and the barometric pressure 30.0 inches; then

$$f = 0.8390 - \left[\frac{0.480 \times 11}{1130 - 74}\right] \times 30.0 = 0.839 - 0.150 = 0.689 =$$

force of Vapor in the atmosphere.

$$h = \frac{f}{f'} = \frac{0.689}{1.2030} = 0.57 = \text{Relative Humidity.}$$

Then d = the temperature corresponding to f in the table which is found by inspection to be 58°.2.

Considerable care is necessary in the use of this Hygrometer. It should be fixed permanently in the shade, in the open air, protected from rain, and from reflected heat. When the temperature is near the freezing point, some difficulty arises from the uncertainty in the freezing of the water on the bulb, but this seldom happens, and may be remedied by more careful observation. The water with which the fountain is filled, should be pure rain water, or water that has been boiled. The muslin covering the wet bulb should be cleaned whenever any impurities appear upon it, and renewed at least four times a year.

Central High School, Philadelphia, July, 1855.

BIBLIOGRAPHICAL NOTICES.

Clinical Lectures on the Diseases of Women and Children. By Gunning S. Bedford, A. M., M. D., Professor of Obstetrics, the Diseases of Women and Children, and Clinical Midwifery in the University of New York. New York: 1855.

This work consists of a series of Clinical Lectures, or rather, "running commentaries upon disease," delivered from the obstetric chair of the University of New York, and originally re-

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ported by several medical gentlemen for the American Lancet, in which journal most of them have been published. The objects and scope of the book are told in the following paragraph concerning the establishment of an Obstetric Clinic:

"It was with the hope of affording you an opportunity of studying the various maladies of the female practically, and also the diseases of children, that I embarked in the enterprise of establishing an *Obstetric Clinique*, which would enable me to bring before you the most interesting of these affections, and discuss in detail their nature, causes, symptoms, complications and treatment." (Page 8.)

In their present collected form, these Lectures constitute a handsome 8vo. volume of 563 pages, a sort of Clinical Hand-Book of Obstetricy, in which the student and the junior members of the profession generally, will find much that is interesting and practically instructive.

"If you will take a retrospect of the last few weeks, you will find, on recurring to your note books, that numerous cases of every day occurrence, the very character of cases which you are most in need of, because they constitute the every day work of professional life, have been brought before you. Their causes, symptoms, diagnosis, pathology, complications and treatment have been fully discussed. These cases, after being prescribed for, have returned, and you have been the witnesses as to the result of the treatment; you have seen whether our views have been sound and worthy of thought, or whether they have been speculative, and, like most hypothetical doctrines, apocryphal, and, therefore, unsafe as guides in the practice of the healing art." (Page 73.)

The typography and general appearance are excellent. With regard to the title—*Obstetric Clinique*—we would simply remark that consistency demands that it be written, in one of two ways, either *Clinique Obstetrique*, or Obstetric Clinic.

The eminently practical ideas of the author, clothed in simple and perspicuous language, are delivered in quite an attractive, affable and off-hand manner. We regret to perceive, however, that this pleasant style is marred by a certain occasional colloquiality, which, notwithstanding the prefatory disclaimer of Prof. B., cannot but be regarded as objectionable by the judicious and time-valuing reader. This very feature, which of late has been obtruding itself somewhat too much in our medical literature, renders it difficult to assign to the work under consideration its true literary and scientific rank. For so far as it is colloquial, it is popularized, and therefore loses that strictly professional

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character which every work emanating from an authoritative source should possess. Moreover, professional books, whose construction is such as to attract both the popular and the scientific eye, seldom succeed in acquiring permanence. They form a sort of hybrid literature, which, like its prototypes in nature, the hybrid races of animals and men, ultimately die out and leave no mark. But a still more serious objection is implied in the quaint expression of an old English writer, "*ye bookes be ye roades unto knowledge.*" The shorter these "roades" the better; the more clear, simple and concise the language of a writer, the more rapidly and satisfactorily do we acquire his ideas. Time is thus saved, and time is momently becoming of more value as the demand upon its use increases. With the widely-spread, and in many instances illy-digested literature of a comprehensive profession before him, the student cannot afford to lose the little time at his disposal in searching through many pages for a single item of positive knowledge, which, when found, may oftentimes, like Gratiano's reasons, be not worth the search. The active practitioner, whose busy carriage allows him no rest through the long day, "in silence and at night" endeavors to meet and grapple with the responsible and arduous duties of his vocation, by seeking that knowledge, which to him is indeed power. Such an one turns instinctively to the author who, in the fewest words, gives him the best and most reliable information. The lofty thoughts of England's great poet find their expression in brief and simple terms. Who does not know that this is the secret of Shakespeare's greatness. We speak advisedly on this subject, for in so doing, we utter the sentiments of many whose daily path lies through and among books, and who are often compelled to exclaim, that "big books are great evils." Certainly verbosity is highly reprehensible in a scientific treatise.

These "Clinical Lectures," 30 in number, and comprehending the details of over 200 cases of disease, may be regarded as so many disconnected or isolated chapters upon the theory and practice of obstetric medicine. Their want of connection or relationship is manifestly due to the author's desire of rendering the volume what it no doubt is, a faithful representative of his clinic as it occurred before the class of the University of New York.

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In the first Lecture, the reader will find some excellent remarks on organic and functional diseases of the uterus; their rank and importance in the nosological scale; the crude ideas entertained with regard to them by the ancients, even by Hippocrates and his school; and the comparatively recent origin of our knowledge concerning their pathology and therapeutical indications. The circumstances which modify these affections, and the causes of their apparent infrequency in former times, are also discussed briefly and to the point. In this latter connection the author makes some very practical and judicious observations upon female hygiene. The latter part of this lecture is taken up with the examination and treatment of the following cases of disease, viz: profuse menstruation from debility; acute external otitis; gonorrhœal ophthalmia; suppression of the menses from cold; and infantile pertussis.

An examination of the cases composing any one of these lectures is sufficient to show the disadvantageous character of the clinical system of teaching as at present in vogue in our medical schools. In one or two hours, at the most, numerous cases of disease, differing from each other in the most marked manner, are passed in rapid review before an audience of young men, the majority of whom have assembled for the first time, perhaps, to look disease in the face and study its protean history. This panoramic method of displaying disease is by no means calculated to assist the student in the acquisition of clear and philosophical notions concerning etiology, diagnosis, therapeutics and the like. In the effort to make the collegiate clinic varied and attractive, accuracy and extent of knowledge are too often sacrificed to mere superficial examinations, which latter must ultimately lead to routineism and all its attendant evils. We are of the opinion that these disadvantages could easily be obviated by occupying the clinical hour with a series of closely allied diseases; or better still, with one particular disease accompanied by cases illustrative of its various modifications.

Examples of chlorosis, muco-purulent vaginal discharge, pruritus pudendi, amenorrhœa, the effects of undue lactation, and scarlatinous albuminuria, make up the second Lecture. The remarks upon chlorosis are every way judicious, and such as every practical physician must concur in. It is an extremely

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interesting affection, and one which deserves close attention and study on account of the obscurity of its origin and primary cause. The few hasty observations at the close of the lecture upon the connection between albuminous urine on the one hand, and arrest of the cutaneous function, followed by renal congestion on the other, are as just in philosophy as they are valuable in practice.

Among the cases treated of in the third Lecture, the remarks on uterine hydatids and concealed pregnancy particularly recommend themselves to the practical physician. The reader, we are sure, will peruse with interest the graphic description of a case of fibrous tumor simulating pregnancy; not only on account of its surgical and obstetrical importance, but also on account of the important and delicate interests often involved in such cases. The narration of such a case constitutes one chapter at least in the unwritten but daily and anxiously acted history of medical experience and responsibility. Such cases show in a clear light the status which the physician occupies in society, and the extent and grandeur of his relations to his fellow creatures.

In Lecture fourth, we have a dissertation upon vaginal discharges, intestinal worms, ulcerative carcinoma of the cervix uteri, &c., with a brief exposé of human credulity and the system of quackery as that hydra-headed monster appears in New York.

Our limits forbid any other than a very hasty glance at the contents of the remaining lectures of the "Obstetric Clinique."

The 5th, 6th, 7th and 8th lectures present nothing of especial interest, except, perhaps, some remarks on the causes, symptoms, diagnosis and treatment of ulcerations of the cervix uteri. In Lecture IX. the subject of uterine diseases is continued. Near the close of it, will be found a case of suppressio mensium following an attack of scurvy. In Lecture X. the most interesting cases are two of steatomatous and sarcomatous tumors, both containing hair. In the 12th Lecture, among a variety of other matter, Dr. B., takes occasion to combat the general custom of applying two ligatures to the umbilical cord. He makes use of but one, because, 1st, "the small quantity of blood which flows from the untied extremity of the cord, consists merely of the disgorgement of the vessels on the fœtal portion of the placenta, and does not come directly from the system of the mother. 2d,

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This very disgorgement, in my opinion, assists in the more prompt expulsion of the after-birth." (p. 200.) Lecture XIII. presents us with some cases of menstrual disease, fibrous tumor of the uterus and ovarian tumors, with observations on the diagnosis of the latter, and the use of the uterine sound. The reader will also find here reported a case of incipient paralysis of the inferior extremities, dependant upon defective menstruation. Lecture XIV. introduces us to the physical and moral changes which the female economy undergoes at the epoch of puberty; several pages are devoted to the time of commencement of the menstrual flux, its source, causes, symptoms and periodicity. In the 15th Lecture, the obstetric surgeon, the medical jurist and the philanthropist will alike find food for reflection. A detailed account is here given of two cases of imperforate os tincæ, accompanied with retention of the menses; this retention producing so much abdominal swelling in one, as to be mistaken for pregnancy. In both patients the os was perforated by means of a curved trocar, and egress given to about two quarts of menstrual blood, with the effect of affording speedy relief from suffering. Then follows the history of a "case of imperforate os tincæ in a pregnant woman, the result of injuries to the neck of the uterus from repeated attempts at abortion, and on whom was performed the operation of vaginal-hysterotomy, with safety to both mother and child." The increasing frequency of criminal attempts at abortion, the undisguised boldness and utter recklessness of life with which these attempts are often pursued, and the necessarily dangerous and at times fatal effects which follow, are evidenced in a case detailed by Dr. B., for which we refer our readers to page 255.

An example of procidentia vesicæ will be found in Lecture XVI. Lecture XVII. opens with some general observations upon the diseases of infancy, their importance and fatality, and the anatomical and physiological peculiarities of the infant. Passing over the next two we find in Lecture XX. a case of trismus nascentium, a disease whose pathology is still very obscure, notwithstanding the investigations of Clark, Holland, Sims and others. With regard to the treatment of this affection we may here observe, that in two very well marked cases we have witnessed decided benefit from the combined use of belladonna and

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iodide of potassium. Lectures XXI. to XXV. inclusive, contain the details of some fifty cases, which though of almost daily occurrence, present features of more or less interest. Lectures XXVI., XXVII. and XXVIII. are mainly taken up with observations on infantile hygiene, therapeutics, &c. Lecture XXIX. we regard as the most interesting of the entire series. It is in reality a short essay upon uræmia, one of the most important varieties of toxæmia or blood poisoning, and one, moreover, which amply illustrates the indebtedness of therapeutics and practical medicine to the untiring and philosophical investigations of the physiological chemist. Much attention has recently been directed to this subject in consequence of the doubts created by the experiments of Frerichs and others, concerning the poisonous nature of urea. Although this substance has been known as a healthy ingredient of the urine for nearly 100 years, and although it has been carefully studied by many skilful chemists, yet its origin and its influence upon the economy, especially the nervous centres, when retained in unusual quantities in the mass of blood, are still mooted points. The opinion has very generally prevailed that the accumulation of urea in the blood is sufficient to produce coma, convulsions and their attendant train of nervous phenomena. This view has been combatted from different experimental stand-points with much success. Segalas, Tiedemann, Mitscherlich, Gmelin, Cl. Bernard, Barreswill, Stannius, Frerichs and others have shown that the kidneys of living animals may be extirpated with but little subsequent disturbance of the nervous system. Again, Courten, Bichat, Gaspard, Vauquelin and others have repeatedly injected urea and urine into the veins, and in every instance failed to observe any convulsive movements. Lastly, Bright, Christison, Rees and Frerichs have in several instances detected large quantities of urea in the blood of man, without the slightest symptom of uræmic toxication. Both Vauquelin and Segalas have suggested the administration of urea as a diuretic. On the other hand, Frerichs claims to have demonstrated that in every case of uræmia a change of urea into the carbonate of ammonia takes place; and that the symptoms which characterize this disease can all be produced by the injection of carbonate of ammonia into the blood. In addition to his own numerous experiments,

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he finds considerable support for these views in the experiments and observations of Orfila, Bernard and Barreswill, Lehmann, Christison, Jakchs, &c.

An interesting fact in this connection is the relation of albuminuria to uræmia. From the investigations of Robin, Tegart, Franz Simon and others, it appears that the presence of albumen in the urine is not necessarily followed by uræmia. Robin suggests that in the oxygenation of the albumen of the blood we are to look for the origin of urea. He thinks that where this oxygenation is to any extent interfered with, albuminuria sooner or later appears. But, the fact that albumen in the urine is sometimes accompanied by an increase of urea in the blood, militates strongly against this opinion. The origin of urea has long been a vexed question in chemico-physiological science. Lehmann, Frerichs, Bidder and Schmidt and their adherents, maintain that this compound is derived from the assimilated histoplastic or albuminous food on the one hand, and from the necessary disintegration and absorption of albuminous tissue during fasting on the other. It will be seen that the former is the interrupted, and the latter the continuous element in this double source. Liebig, Bischoff and others of that school contend that we are to seek for the formation of urea in the metamorphosis of the nitrogenized tissues alone.

The cause and semeiologic value of albumen in the urine are also matters of great interest and importance to the practical physician as well as to the student of physiology. Our author very properly objects to the view of Dr. Williams who considers albuminuria as the result of renal congestion alone. This pathological condition we have every reason to attribute to a highly complex cause. Peculiar alterations in the composition of the blood; organic and physiological changes in the kidney itself; compression of the renal veins, by the gravid uterus, tumors, &c., are all capable of producing albuminous urine.

After a few general remarks upon the nature of the secretory process, its importance as the grand eliminating agent, by which the blood is maintained in its normal condition, Dr. B. writes. We may suppose,

"That in most of the diseases which we have enumerated as being occasionally accompanied with albuminuria, such, for example, as cho-

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lera, scarlatina, diabetes, &c., the constituents of the blood become changed by the introduction either of a poison or some other unusual substance. If this occur, it is quite manifest that the blood is no longer normal, and because of its altered condition, its elaboration in the kidney will also be modified. In other words, in lieu of the ordinary elements contained in the urine, we shall sometimes find albumen, an absence of urea, etc."

"Again, the blood is changed in pregnancy, various circumstances tending to this modification, viz., the formation of kiestine, the secretion of milk, the quantity of blood materials passing through the circulation of the fœtus, and the diseases of the embryo itself, not to speak of its excretions, some of which we know enter the blood of the mother. These, then, being so many influences capable of altering the constituents of the blood, will they not account, in some instances, for the occasional presence of albuminuria in the pregnant female?"

"I have no experiments to offer with the view of demonstrating that the menstrual blood positively contains noxious materials, but I argue the affirmative of this question from certain pathological states, which we observe to follow an abnormal condition of the catamenial function. For instance, in one hundred unmarried women who may labor under suppression of the menses from the operation of any of the influences known to produce this result, such as cold, mental emotion, etc., we will discover that in at least ninety-five the suppression will be followed by more or less disturbance of the nervous system. In some, it is true, the symptoms will be light and evanescent, but in others they will assume a more marked character, sometimes even producing mania, and at others coma, epilepsy, catalepsy, chorea, etc. May not these phenomena be due to a species of toxæmia traceable to the poison of the menstrual blood upon the nervous centers?

"This opinion seems to be confirmed by the important fact that all the nervous disturbances cease with the return of the function. I have enjoyed full opportunities for observing the effects on the system of the various forms of menstrual aberration; and I have also noticed an extremely interesting and significant circumstance—a circumstance which certainly tends to corroborate the hypothesis that the derangements of function are owing to a species of blood-poisoning. The circumstance to which I allude is this: when the catamenial discharge becomes suddenly or otherwise abnormally arrested, the urinary secretion is usually diminished in proportion to the intensity of the nervous symptoms—and what is still more significant is, that the nervous disturbance will yield in proportion to the effects of diuretic and sudorific remedies. There is no error as to the fact—its truth is readily susceptible of demonstration." (pp. 525-6-7.)

Of all the causes which operate in the production of albuminuria, obstruction of the renal circulation is perhaps the most common. The experiments and observations of Robinson, Meyer, Frerichs, Lee, Velpeau, Stokes, Cruveilhier, and many others,

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show conclusively that obliteration of renal veins, whether by ligature or otherwise, is almost invariably followed by albuminous urine. "In gestation, and especially primiparæ, albuminuria is often caused by the pressure of the impregnated uterus on the renal vessels. In 106 multiparæ, Blot has found eleven women whose urine contained albumen, while in 99 primiparæ, thirty exhibited albuminuria. The proportions, therefore, for the former are as 1 to 10—the latter as 1 to 3." This difference is probably due to the fact that in first gestations the abdominal parietes being firmer and more resisting, the gravid uterus is pressed backwards against the blood-vessels with more force, while in multiparæ the walls of the abdomen are so relaxed as to allow the womb to gravitate forwards and thus prevent this pressure and subsequent congestion of the renal capillaries.

In the treatment of uræmia, a knowledge of the conditions influencing the amount of urea in the economy is obviously of the highest importance to the physician. The recent valuable contributions to this branch of urological science—the results mainly of the many careful and elaborate investigations of the German chemists—are worthy of very close attention, since without these guides it is impossible to institute a rational treatment of this disease. The amount of urea excreted from the system is influenced by the quantity of water used as drink, the kind and amount of food, accessory diet, certain inorganic matters taken in with the ingesta, exercise, medicine, certain diseased conditions of the body, &c. According to Bischoff, excessive water-drinking gives rise to a more rapid elimination of urea by the kidneys, in consequence of its increased disintegrating effects upon the nitrogenized tissues. The experiments of Böcker confirm this view, while those of Schmidt lead to a directly opposite result. Seigmund and Bischoff have both experimented upon the influence exerted by the quantity and quality of the food upon the metamorphosis of the nitrogenous tissues, and through this latter upon the amount of urea excreted in a certain time. They found that the formation and excretion of urea in a given time was directly related to the amount of azotized food digested in that time; and that the consumption of gelatinous matters increased, while the use of fats diminished the excretion of urea. The combined experiments of Heller, Böcker and Lehmann,

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show very conclusively that the free use of tea, coffee, alcohol, &c., and those substances which are classed together, by systematic writers, under the head of "the accessory diet," is attended with diminished urea in the urine; while chloride of sodium, according to Bischoff, decidedly increases the quantity of urea excreted. Active exercise, wasting disease, many of the phlegmasia, as pneumonia, pleuritis, meningitis, acute tuberculosis, endocarditis, &c., all augment the formation and elimination of urea; while the chronic neuroses and most renal diseases diminish this compound. Attention is also beginning to be directed to the influence of medicinal agents upon the salts of the urine; and although the laborers in this field of research are but few in numbers, yet they have accomplished sufficient to justify very hopeful anticipations of the ultimate results. We can but allude to a few of the experiments upon the action of certain diuretic medicines. According to Prof. Krahmer, of Halle, the administration of colchicum and guaiacum, decidedly increases the amount of urea excreted in the urine. Böcker has quite recently shown that similar results follow the use of strongly concentrated phosphoric acid; while phosphate of soda produces a *reverse* effect. Laveran and Millon assert that Rochelle salt, in small doses, increases the amount of urea and diminishes that of *uric* acid. From his experiments upon rabbits, Siegmund has shown that the amount of urea is augmented by cubebs and the ethereal extract of cantharides. Lastly, Dr. Parkes claims the same effects for potash.

On page 534 of the volume before us, the reader will find the following conclusions, which, in the present state of physiological science, we have reasons for considering as fairly deducible from the above facts.

"1st. Uræmia is a nervous disturbance arising from a peculiar blood-poisoning.

"2d. Albuminuria is often connected with uræmia, but is not the cause of it.

"3d. Disease of the kidney will often produce albuminuria, but in a great many cases albuminuria exists without true disease of the gland, and as a consequence of an active, or a merely passive congestion, and it will also result from a variety of nervous disturbances.

"4th. If urea be a poison, the quantity of it which accumulates in the blood in cases of extirpation of the kidneys in animals, or in suppression of urine in man, is not sufficient to produce any *manifest* deleterious effect.

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"5th. According to Frerichs, uræmia is merely a poisoning by the carbonate of ammonia, which is a product from the decomposition of urea.

"6th. The treatment of uræmia must consist in the free use of diuretics, sudorifics and purgatives, the most suitable diuretics for this purpose being colchicum and guaiacum."

The prominent topic in the last lecture (XXX.) is sterility, its causes, treatment, &c.

We have thus, in a hasty manner, laid before our readers a summary of the contents of the "obstetric clinique." One additional comment remains to be made. In numerous places throughout the work, the author shows very truthfully that physiology is a prominent and indispensable auxiliary in the formation of a rational, and therefore philosophical system, of therapeutics. And in most instances he is happily accurate in his application of the facts of physiological science to the details of the diagnosis and treatment of disease. Occasional errors in this respect, however, will be detected by the careful reader, errors which are perhaps justly attributable to the clinical system itself. For very certain it is that every part of the human fabric is so closely connected with all the rest, and all the functions, organic and animal, are so continuously interwoven with each other, that when the finger of disease touches an organ, a thorough and most scrutinizing examination is required in the majority of cases to separate the positive from the sympathetic symptoms, to avoid confounding effects with causes, and lastly to point out the *fons et origo mali.* But this thoroughness of examination, this slow and laborious mode, the only one truly successful, of arriving at a positive diagnosis, demands more time than the clinical hour can afford. Hence the temptation, at once to avoid severe mental labor and save time, is often too great to be resisted. Thus errors are introduced into the logic of medicine which might otherwise have been avoided.

By referring to page 11 of the volume under notice, the reader will find the following words:

"The case of the patient before us, presents an example of profuse menstruation purely from debility, and is the result of an atonic state of the system and more especially of the uterine vessels, which together with the increased fluidity of the blood from the loss of its fibrin, will at once account for this particular form of hemorrhage."

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Now, Andral and Scherer have shown, as the results of their observations, that the proportion of fibrin in the blood actually increases instead of diminishes in consequence of venesection, even when the latter process is pushed to the extreme, as in severe cases of pneumonia. The analyses of Franz Simon indicate that in the blood of horses undergoing starvation, the fibrin increases from 3 to 4 parts—the normal mean—to 11 or 12 per 1000 parts. The same phenomenon is manifest in anæmic and chlorotic cases, and also in healthy individuals during the fatigue induced by violent exercise, when the tissues undergo a more rapid disintegration and metamorphosis. The debility of this case is perfectly compatible with the reduction of the red corpuscles, which we know to constitute the potential elements of the blood, and which are rapidly abstracted by blood-letting, hemorrhage, etc. That the fluidity of the blood was one element in the cause of this profuse menstruation we do not doubt, but that this increased fluidity was dependant upon increased fibrinousness we cannot admit. We are of opinion that the cause should be sought for in the increased absorption manifested by the blood vessel system in its partly emptied condition, by which water is abstracted from the surrounding tissues, and an attempt made by nature to preserve the normal quantity in the vessels, and thus obviate in a measure the constant drain. The blood, under these circumstances, becomes, of course, more and more watery, and tends constantly to escape by exosmose. The decided loss of fibrin appears here to have been taken for granted, as it furnished a ready and seemingly correct explanation of the etiology and pathology of the disease. Upon a careful perusal of the details we can find no evidence of an analysis having been made. On pages 26 and 28 our author, in his remarks on Chlorosis, says, "if the emmenagogue treatment should result in establishing the menstrual flow, the general health suffers just in proportion to the loss of blood sustained." "The great remedy for chlorosis is iron, in some or other of its various preparations." This treatment we know from positive experience to be highly beneficial. But Herberger, who has examined the blood of many chlorotic cases shows conclusively that, under the use of chalybeates, while the red corpuscles increase in quantity, the fibrin diminishes—the latter being converted into the former. Thus,

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one case—a chlorotic female of twenty years—after the administration of iron for several weeks, the red globules had augmented from 88,060 to 98,319, while the fibrin had diminished from 3,609—the healthy average—to 1,950. This treatment—so eminently judicious—appears to us to be in direct opposition to the reasoning advanced on page 11.

Did our limits permit, we might allude to several other instances of what we are constrained to consider as defective physiology.

In conclusion, we are free to confess that we have been both pleased and instructed by the perusal of the "Obstetric Clinique;" and very confidently recommend it, therefore, to the younger portion of the profession, as well as to the great student-class of our Union—for whom it appears more especially to have been designed—as an excellent repertorium of clinical medicine.

J. A. M.

A Treatise on Epidemic Cholera. By HORATIO GATES JAMESON, Sr., M. D., Member of the Medical and Chirurgical Faculty of Maryland; Professor of Surgery; Member of the Philosophical Societies of Berlin and Moscow, &c. Philadelphia: Lindsay & Blakiston.

No subject can ever become old, in the sense of wearisome, in science, except to the mere *dilettante.* Until we have classified all the facts, and solved the mysteries, of a medical topic, let us not cease to welcome new and intelligent observations, or even ratiocinations upon it. This work contains much of both. Nor is it at all a mere compilation—Dr. Jameson having been a veteran in the practice as well as in the study of his profession. In 1832, as Consulting Physician to the City of Baltimore; and subsequently, in York and Columbia, Pa., and elsewhere, he has seen and treated a large number of cases of the disease of which he writes. He has travelled, in fact, in pursuit of data in regard to it, with a zeal akin to that which made the late Dr. Drake so great a light in American inductive medicine. The reader upon Cholera will find in the work of Dr. J. all the leading facts in regard to the natural history of the disease,—in its forms of *cholerine, cholero-dysentery,* and *cholera lethalis.* The

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style is easy, agreeable and vigorous; so that it makes not only a useful, but a very *readable* book. The doctrine of the non-contagiousness of the disease, and of the inefficacy of quarantine or other seclusive measures, is emphatically and very forcibly set forth. Other noticeable features of the Treatise are, the favor with which bloodletting in the early stage of cholera is spoken of, on the ground of actual experience; some extremely sensible remarks upon injection or transfusion, as a remedy; and the mention of the use of lard as an external application in the cold stage. The scope of the work has allowed the author to introduce a number of extracts from other treatises and periodicals, some of which are of great value; as, for instance, the account of the "physiolo-surgical" experiments of Dieffenbach in Berlin; the excellent Notification of the General Board of Health of England in 1853; and the summary of observations by Schönbein, Bœckel and others upon ozone. We regret that opportunity was not afforded, also, of noticing the experiments and observations upon this subject of Dr. Clemens, of Frankfort-on-the-Maine: which go far towards establishing a more consistent theory of the relations of ozonometry to hygiene, than has yet been suggested.

Curious facts are related, as having occurred in the vicinity of Baltimore, which appear to support, to a certain extent, the opinion of Dr. Bury, that *copper-works* have some preservative influence against cholera.

The view of Dr. Jameson is, that a *binary* causation is essential to the development of a cholera epidemic; its elements being, 1st, a general or ubiquitous *morbific cycle*, and 2d, *local malaria;* to which are often added, also, *fortuitous* causes,—in the imprudence or other accidental circumstances of individuals.

Although it has less of method in the arrangement, and more diffuseness and repetition, than will be agreeable to many readers, we believe that this treatise of Dr. Jameson will be found to be a valuable addition to the most select medical library, and an appropriate monument of the devotion, in advanced years, of one who has served through a long career as a votary of medical science. H.

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Clinical Lectures on Paralysis, Disease of the Brain, and other Affections of the Nervous System. By ROBERT BENTLEY TODD, M. D., F. R. S. Philadelphia: Lindsay & Blakiston. 1855.

Dr. Todd's lectures contain a very full and instructive exposition of the etiology, pathology and treatment of the different forms of paralysis which presented themselves at King's College Hospital during a term of ten years. Although the work cannot be considered a systematic treatise on the subject, so much practical information is contained in its pages, and the cases are so admirably described, both as regards the symptoms of the patient and the various morbid alterations found post-mortem, that it cannot but prove a valuable and useful work to any one who studies it.

The author evidently thinks for himself, his extensive physiological and anatomical knowledge, guided by a clear and sound judgment, giving to his opinion a weight and authority second to no other living writer. In the twenty lectures which comprise the volume, eighty-seven cases are detailed, each one of them illustrative of some peculiar form of paralysis.

Not having space for extracts, we must content ourselves by saying that we consider Dr. Todd's work a most able contribution on a subject upon which more information was much to be desired.

Messrs. Lindsay and Blakiston deserve the thanks of the profession for the very handsome style in which the work is published.

History of the American Medical Association, from its Organization up to January, 1855. By N. S. DAVIS, M. D., Professor of Principles and Practice of Medicine and Clinical Medicine in Rush Medical College, &c. *To which is appended, Biographical Notices, with Portraits of the Presidents of the Association, and of the Author.* Edited by S. W. BUTLER, M. D. Philadelphia: Lippincott, Grambo & Co. 1855.

The above volume comprises a series of articles published anonymously in the New Jersey Medical Reporter, their paternity only being acknowledged when it was determined to republish

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them in their present more durable form. "I hope this explanation," says the author in his Preface, "will afford a sufficient apology for the freedom with which my own name is used throughout the work. The whole of it has been written in the midst of the most arduous and pressing professional duties, and without the possibility of commanding time for a revision."

Dr. Davis has executed his task very satisfactorily. The history of the Association from its origin, the indifference, distrust and open opposition which retarded its organization, and its final, triumphant success, so fully and ably described by him, cannot but be perused with interest and advantage by every lover of our profession.

We sincerely hope the work will have a large circulation.

THE MEDICAL EXAMINER.

PHILADELPHIA, SEPTEMBER, 1855.

There is no class of invalids who require the comforts, conveniences, and even the luxuries of life more than those threatened with consumption; and yet it oftentimes has happened to those who have sought the equable temperature of Florida during the winter and spring months, to be so seriously inconvenienced from the want of proper accommodation, adapted to their condition, that the benefits they had hoped to derive by wintering in the south were much diminished.

We are glad to learn that an establishment will soon go into operation to which those suffering from such affections may resort with every confidence, both in regard to its hygienic management and the medical skill of its attending physician.

This *Sanitarium* for affections of the throat and lungs is to be under the care of Dr. N. D. Benedict, late Superintendent of the New York State Lunatic Asylum.

It is located at Magnolia, East Florida, on the river St. Johns, between Jacksonville and St. Augustine, at a distance of about twenty miles from the sea-board. It is one day's journey, by steam boat, from Savannah and Charleston, and four days, by steamer, from New York and Philadelphia, via Charleston or Savannah.

The climate of East Florida is probably better adapted, as a winter residence, for invalids with delicate lungs, than any other part of the

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United States. The mean temperature of the winter months is about 60°; frost is rarely seen, and the little rain that falls is rapidly absorbed by a dry sandy soil, shaded by pine forests.

After much observation and deliberation, the above site was chosen, believing it to possess as many, if not more, advantages than other any location in that country.

The house, which is commodious, having large airy chambers, and in every respect well constructed for the purpose, will be opened in November next for the reception of invalids, who may or may not be accompanied by their friends.

We have known Dr. Benedict for many years, and can bear warm testimony, from personal experience, to his skill as a physician, and his warm-heartedness as a man. More particular information may be obtained by addressing him at Philadelphia.

We regret to state that there is no abatement in the ravages committed by the Yellow Fever in Virginia. The number of deaths in Norfolk average about 17 daily, and about 20 in Portsmouth. The papers inform us that Dr. Stone, of New Orleans, who has had an extensive acquaintance with the disease, besides being an accomplished physician, pronounces it to be of the same type as that which afflicted New Orleans in 1853, and to which the Creoles gave the name of *la peste.*

"It seems to differ from the old type of yellow fever in manner of attack, in treatment required, and in the celerity with which the work of death is performed—many of its victims dying within a few hours of their attack. The premonitory symptoms are simply a sharp acute pain like rheumatic pain, or sometimes a paralytic shock in some part of the body. For instance, Mr. Barclay was attacked by what felt to him like a severe blow upon the right hip. Others are attacked by a sharp pain across the knuckles of the hand. Unless attended to immediately, the pain extends up the arm, or leg, and gradually over the entire body. Internal fever ensues, while the skin and extremities are icy cold. The first effort is to bring about a reaction by wrapping the patient in ice, followed by hot mustard applications; the object being to produce perspiration, which, if successful, is generally followed by a cure. Very little, if any internal medicine is needed or allowed, except, perhaps, a slight tonic."

The Beacon, of Norfolk, has the following:

"Our panic-stricken citizens have fled and left nought behind them but pestilence and famine! They have carried off their spoils—their money—but they have left their city overwhelmed in present dismay and distress, with a long vista of adversity in prospective. Its present appearance is gloomy beyond conception. Take a position on Main, at

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the intersection of Bank street, and in ordinary times you command a view of the great business mart of the city, such as might convey by no means a faint idea of the New York "Broadway," on a small scale. But now how changed! All the stores, with not more than half a dozen exceptions, closed on Main street and Market square, some score or two of persons passing, and these either members or employees of the Howard Association, on some errand of mercy. The rattling of wheels is heard as usual; but alas! they are the wheels of physicians' carriages or of hacks used for despatch in conveying messengers. Go to any other part of the city and the same prevailing gloom is seen. The wharves are bare of shipping, and desolation reigns throughout their borders. All is cheerless and heart-sickening."

A letter writer under date of the 23d, also says:

"My estimate of 250 cases now under treatment, though formed on consultation with several of our leading physicians, seems to be too low. At the Dispensary alone 200 prescriptions a day have been put up for two or three days past, and there are five other apothecary establishments whose proprietors are as busy as they can be all day. Our doctors too, are going their rounds from early dawn to bed time. We know one who paid 68 visits in one day, another who had a list of 70 patients, another of 39, another of 31, another of 29, and we have about 15 of the faculty in good practice. You may form your own estimate from these figures. Drs. Peniston, Freeman and De Castro* are constantly on the go. The former paid 40 visits in Portsmouth yesterday, besides an almost equally large number here. All three gentlemen are doing noble service in the cause they have voluntarily espoused. Dr. Gooch, of Richmond, also came to this city yesterday, and paid a visit to the hospital at Julappi, where he made a careful inspection of the patients, every facility for that purpose being shown him by Dr. William M. Wilson, the accomplished and skilful resident. There are now 33 sick, and 47 convalescent in the hospital. The sick, for the most part, are doing very well, and it has been remarked, that in almost every case where the patient has been removed there when first attacked by the fever, he has rapidly recovered. The deaths have been few in comparison to the numbers sent, thus showing the virtue as well of pure air as of good attendance, neither of which the poor sufferers could enjoy if left at their homes in the city."

We are happy to say that the fever has sensibly abated in New Orleans during the last ten days.

CORRECTION.

In the July number of the Examiner, our readers were informed that Dr. Caspar Morris was chosen one of the Accoucheurs to the Philadelphia Hospital, Blockley. It should have been printed, Consulting Physician to the Children's Department, and Lecturer on the Diseases of Children.

* From Philadelphia.—Ed.

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MEDICAL NEWS.

Dr. Jacob Bigelow has resigned his post of Physician to the Massachusetts General Hospital. Dr. Augustus Gould was unanimously elected to fill the vacancy.

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Dr. B. Fordyce Barker has been elected one of the Physicians to the Bellevue Hospital, New York, in the place of Dr. Thomas F. Cock, resigned.

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Dr. J. C. O'Neal, of Baltimore, obtained a verdict from the Superior Court of that city for damages, in the sum of $10,000, against one of the persons who were injured by the awful railway accident of the 4th of July, last year. The defendant had both his legs fractured, and was treated by Dr. O'Neal. After his recovery, he circulated a report, through the papers, that his limbs had not been broken, and that Dr. O'Neal had used deception in the management of his case. Hence the verdict.— *Western Lancet.*

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OBITUARY.

Died, at Saratoga Springs, New York, on the 20th of August, Dr. Moreton Stillé, in the 33d year of his age.

It is with sorrow that we announce the above melancholy event to our readers. Dr. Stillé's acquirements, manly character, unassuming deportment, and moral worth secured for him the respect and esteem of all who were acquainted with him. With most excellent natural abilities, he had a carefully cultivated mind, was master of several languages, and from advantages of study and travel, was both an accomplished scholar and physician. As a writer, besides occasional contributions to the American Journal of Medical Sciences, and to this Journal, Dr. Stillé was author of a most valuable paper on the pathology of Cyanosis, written for his thesis for the degree of Doctor of Medicine, and honored by being published by authority of the Faculty of the University of Pennsylvania. It is unnecessary for us to comment on the merits of that paper, as it is well known to the profession, and secured for its author, both at home and abroad, a reputation rarely attained by one of his early age.

For the last two years of his life, Dr. Stillé had been unintermittingly occupied in writing a work on Medical Jurisprudence, which we are happy to state is printed, and will shortly be published. Early in the present year he was appointed Lecturer upon the Theory and Practice of

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Medicine in the *Philadelphia Association for Medical Instruction.* A rare critical sagacity applied to the results of extensive research rendered his instructions both accurate and complete, and we are informed by his colleagues that they were highly esteemed by the class to whom they were imparted.

There is every reason to think that the confinement and sedentary life, resulting from his deep interest in and close application to his posthumous work, together with the new and onerous duties of his Lectureship, were of great injury to a constitution and frame physically unfitted for such untiring labor.

By his many friends, his memory will long be warmly cherished, and while we cannot cease to regret the bright promise blighted by his untimely death, we

> "Trust that those we call the dead
> Are breathers of an ampler day
> For ever nobler ends."

—

Died, at Richmond, on the 15th of July, of valvular disease of the heart, Dr. R. L. BOHANNAN, Professor of Obstetrics in the Medical College of Virginia, aged 68 years.

—

On the 12th of July, at Smithfield, Rhode Island, Dr. ELISHA BARTLETT, aged 51 years, author of a work on Medical Philosophy, also of a Treatise on Fevers, both of them highly valued by the profession.

—

M. VALLEIX.—This distinguished physician died of malignant sore throat, on the 12th of July last, after a short illness. His remains were accompanied to the cemetery of Mont Parnasse by a large number of devoted friends. The orations at the tomb were delivered by MM. Barth, Goupil, Latour, and his old master Louis, who was much affected. M. Valleix was a man of great erudition, and intimately acquainted with the contemporary medical literature of England. To strangers he was accessible and polite, and to not a few in this our northern metropolis, his memory is endeared by many acts of friendship. His chief works are—the *Guide du Médicin Praticien*, the *Traité des Névralgies*, and the *Clinique des Maladies des Enfants nouveau-nés.*—*Edin. Med. Jour.*

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RECORD OF MEDICAL SCIENCE.

Observations on Scarlatina. By HENRY TWEEDY, M. D., &c.—There is no lack at present of able and useful contributions to our medical and surgical literature, but all must admit that it is of the first importance that practical men (many of whom have neither time nor taste for writing learned and lengthened essays) should be encouraged in every possible way to write as briefly and as plainly as they please upon points of practice not generally adopted, and the correctness of which has been proved in perhaps hundreds of unpublished cases.

The following observations upon scarlatina shall be confined to three points of practice:—

1ST. EARLY PURGATIVES.

2D. COLD DRINKS.

3D. THE APPLICATION OF NITRATE OF SILVER.

I have had extensive opportunity of witnessing and treating eruptive diseases when on different occasions they severally assumed the form of an epidemic in Dublin. Of scarlatina, which is justly considered the most formidable, I do in truth declare that, to the best of my belief, not a single case, for the last ten years, proved fatal of those which I had seen within twenty-four hours of the commencement of the attack, and which had not previously been put under treatment. Humanly speaking, the cause of such success has been that I have long held in deep abhorrence an *early* aperient in *any* form of eruptive disease. I state it advisedly as my opinion, and one not hastily formed, that a smart purgative draught is in itself sufficient to convert a case of mild scarlatina into a malignant, and, in all probability, a fatal one. To my mind it is not difficult to assign a reason as to how and why this should be so.

The primary stage of every disease, whether medical or surgical, is inflammatory, and this supposes the diminution—in some instances, the almost entire suspension—of all the secretions. The mucous membranes, which in health are always moist, become in the early stage of fever, and more especially the eruptive fevers, dry, rough, and parched. An irritating purgative which, in hundreds of cases, forms the groundwork of the treatment, increases considerably this state of things, and therefore should by all means be avoided; whereas medicines which tend to relieve the skin, subdue the fever, and restore the secretions, will, in almost every instance, cause the bowels to act freely and naturally.—Should such fail to be the case, a mild aperient, about the conclusion of the third day, will seldom fail in accomplishing all the indications required.

I consider this point one of great practical importance, involving the lives of many of our fellow-creatures. I have for years felt it my duty to warn parents, guardians, and proprietors of schools, &c., against the objectionable and most dangerous practice so often adopted, of giving aperient medicines during the prevalence of any epidemic. They have, to say the least of them, in numerous cases, done irreparable harm,

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lessening considerably, if not altogether destroying, all hopes of a good and complete recovery.

I cannot say that in one solitary case for the last ten years I ever ordered a particle of aperient medicine before the eruption was not only fully and fairly established, but further, beginning to decline; and I do positively assert that I never had cause to regret it. The bowels have, in many cases, been most satisfactorily relieved by medicines given with a totally different object, and in all the patients did well.

The medicine of all others on which I rely most, and the efficacy of which, in many diseases, is far greater than is generally known, is ipecacuanha. For a strong robust child of 10 or 12 years of age, I should order the following mixture:—

℞ Aq. distil. ℥vii.
Pulv. ipecac. gr. vi.
Syrupi croci ℥j. M.

One tablespoonful to be taken every second hour. The dose of the medicine should be increased or diminished in proportion to the age of the patient and the effect produced.

Cold Drinks.

In connection with eruptive and inflammatory fevers generally, it may be well to mention that the objection entertained by many to cold water as a drink is, in my opinion, wholly untenable. I cannot possibly say in how many cases of scarlatina, measles, and other eruptive diseases, whether in adult or child, I have given the attendants full permission to give the patients cold water to any extent desired by them. Suffice it to say, that for at least ten years it has been, with perhaps one or two exceptions, my invariable rule. I am thankful to say, that not a solitary case has occurred which caused me to regret it. On the contrary, it has always proved not only a safe, but, in my opinion, the most useful, and certainly the most agreeable drink I could possibly employ.

While strongly advocating the propriety of giving patients as much cold water as they could possibly desire during the inflammatory stage of fever, I am not to be supposed to say that I should *order* every (or any) patient to drink quantities of this fluid against his will: quite the contrary. There are to be found some, especially in the upper ranks of life (I do not think I ever saw one in the lower), who, whether in sickness or in health, have an intolerable aversion to cold water as a drink. I have before my mind the names of some such, who have repeatedly acknowledged to me that never in their lives did they drink one glass of plain cold water at a time. With such I did not press the remedy, and each did well taking large quantities of warm drinks to assuage their intolerable thirst.

As there are physicians favorable to early purgatives, so there are those hostile to cold drinks in the first stage of eruptive fevers. My observation of the effects of both remedies in a large number of cases has led to the following conclusions:—

1st. A case may occur in which a purgative might be called for as the foundation of treatment in early fever, but I must ever maintain that such case is the exception, and not the rule.

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2d. Cases may and do occur, in which early purgatives in fever do no apparent mischief; on the contrary, the patients progress satisfactorily.

3d. Constant observation forces upon me the conviction, that most serious consequences are produced by purgatives in the early stage of eruptive disease, eventuating in the most startling results, which, in my opinion, might have been avoided by other and milder treatment.

4th. The choice of warm whey, &c., or cold water, may safely be left with the patient. In nineteen cases out of twenty, the latter will be preferred. Gratifying the patient in the matter has never disappointed me.

Nitrate of Silver.

The third consideration with reference to scarlatina, which I desire briefly to advert to, is the Application of Nitrate of Silver to the Fauces.

I believe no physician doubts the efficacy of this remedy, but certain I am that many practitioners might nearly, if not altogether, as well neglect this most useful and powerful agent, as use it as they do. There are many who never apply nitrate of silver to the throat in any other way than by means of a camel's hair pencil. Now, nothing could shake me in my conviction, that hundreds of cases of scarlatina have proved fatal from this cause alone. I have seen ulcerated sore throats, as severe as perhaps any which the records of medicine can afford, and which had brought the patients suffering from them to the very confines of the grave. Had I nothing better at hand than a camel's-hair pencil for applying a caustic solution, to a moral certainty they would all have terminated fatally.

The right mode, in my judgment, for employing this great (I might almost say only) remedy in this extreme case, in which life is all but extinct, is to get a long probe, round which should be rolled a piece of lint. This should be allowed to stand for about one minute in a twenty-grain solution of nitrate of silver. A spatula or spoon having been placed on the tongue to depress it, the probe should be passed low down into the throat, the interior of which should be cleverly rubbed all round. Those who have practised this in the way described have had their hearts gladdened by the wondrous change in a moment produced. A sponge attached to a rod of whalebone has been used and recommended by many. This, though infinitely preferable to a camel's-hair pencil, is open to objections:—1st. The same sponge should not be used (though I have seen it done) for more than one patient, and we often meet with two, three, or even more at the same time, and in the same house. 2d. There is a difficulty in having the sponge kept clean. 3d. The sponge is ten times more disagreeable to the patient; and lastly, it does not answer the purpose so well.

I know of no disease, the recoveries from which have astonished and rejoiced me so much as scarlatina. No case should be despaired of, or left without the most vigilant care, until life became wholly and unmistakably extinct. I feel perfectly satisfied that there are many practitioners who have reason (upon a review of past experience of this disease above all others) bitterly to regret the course they pursued.—

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Like croup, it runs through its stages quickly. To neglect proper treatment, and that at the right moment, or to employ injurious means, is an error never to be remedied.

Some time since I was attending a fine boy, aged seven years, in Mountjoy-square. He labored under malignant scarlatina. The case was one demanding the utmost care and attention, it being as unpromising—I might perhaps say as hopeless—a case as any I had ever seen. Having had occasion to pass the house at a very late hour of the night, I paid my little patient an unexpected visit. The person who opened the hall-door announced to me her belief that the child was dead. On entering the room I beheld the mournful sight of a fond father with what he considered to be his dead son lying in his lap. The scene was one not soon to be forgotten. On a very close examination, I could clearly perceive that the child was still alive, but no more. One drop of fluid he could not swallow, and his respiration was almost imperceptible. I instantly applied the nitrate of silver in the manner I have described; not, I must say, with much, (if any) expectation of success. The effect was literally miraculous. An immense quantity of mucus and lymph adhered to the lint; he immediately breathed freely, before I left the house drank cold water, and in the providence of GOD made a quick and complete recovery.

This is a case of peculiar interest, pointing out distinctly two important points—viz., 1st. The extreme value of nitrate of silver when properly applied. 2d. The physician's duty in never turning his back upon his patients, and saying no more can be done, so long as the smallest appearance of life remains.

A short time since I attended a family in North Richmond street, who have suffered severely from scarlatina. The mother took the disease from her children, four or five of whom were ill together. With the exception of one, the cases, though far from being mild, were not alarmingly severe. In the eldest, a handsome girl, about 11 years of age, the disease assumed a malignant type. On the night of the fourth or fifth day, I was sent for in great haste, and was informed by the messenger that my patient was dying. On entering the room I had good reason for fearing that what I had heard was but too true. Her face was absolutely purple; her respiration so painfully difficult that she required to be propped up with pillows in her bed; an intelligible word she could not utter, and swallowing was quite out of the question. I lost not a moment in applying the caustic solution, as in the last case mentioned, and with similar and equally happy results. Her recovery was everything that could be desired, and she is now, I am thankful to say, a healthy young lady, full of life and spirits.

I do not presume to say that the man who adopts the foregoing treatment must necessarily succeed in every or in any case; but this much I must say, that in my experience it has proved successful, and I confidently believe that none who adhere to it will have reason to regret it.

Dublin Medical Press.

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On the Pathology of the Pancreas. By Dr. Eisenmann.—The interesting experiments of M. Cl. Bernard upon the uses of the pancreatic juice, have led the author of this article to consider, whether or not the results, obtained by that physiologist, are capable of being applied to the diagnosis of disease in this organ.

If the pancreatic juice assists the digestion, and consequently the absorption of fatty matters, the conclusion is, that when the functions of that gland are destroyed by disease, fat should pass with the dejections, and be found in them in an unaltered condition. It is interesting to observe how nearly science has anticipated what the observations at the bedside of patients laboring under such disease have confirmed. The author has united the facts observed by others with those presented in a case of his own.

Of seven cases adduced, six terminated in death; there had been abundant fatty evacuations, and *post mortem* examination showed the existence of induration, or other alteration in the pancreas. In the seventh case, quoted from Lussana, the patient recovered. The principal symptoms in this case were copious salivation, a sense of weight in the epigastrium not increased upon pressure, eructations, flatulence, coldness of the surface, and a small and slow pulse. The expression indicated abdominal disease. Constipation was present, but the fæces contained yellowish particles resembling fatty concretions, and which were in fact composed of fatty materials. These occurred in increased quantity after purgatives. M. Eisenmann regards Lussana as the first who applied to pathology the discovery of Bernard. In the instance observed by himself, the author had diagnosed pancreatic disease, but had not made out the presence of fat in the evacuations. This circumstance induced him to suppose that the pancreatic juice did not exclusively produce the absorption of fatty matters, but was assisted in this action by the bile. Budge and Wistinghausen have made experiments which countenance this idea, and the author recalls a case cited by Pearson, of a woman who evacuated daily 3 oz. of a fatty substance, and did not present, upon *post mortem* examination, any trace of pancreatic disease, but the liver was pale, large, and destitute of bile. One remarkable circumstance, is, that in many of the cases cited by M. Eisenmann, the oily evacuations had ceased, while the pancreas was so indurated as to render the performance of its functions impossible. The author also alludes to another circumstance, not less worthy of remark, viz., the large quantity of fat yielded, a quantity much greater than that contained in the food, and which leads to the supposition that part of the fœcal matters is transformed into fat. However that may be, the fact shows us that the presence of fat in the intestinal evacuations indicates with probability, but not with certainty, derangement in the functions of the pancreas; while, on the other hand, the absence of fatty matters does not authorise us to conclude that there is no disease in this gland, if other symptoms exist indicative of such an affection.

The author has endeavored to employ the facts collected by him in establishing a more correct symptomatology of disease of the pancreas. He divides the symptoms into two classes, those accompanying degenera-

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tion of the gland, and those arising from its acute or chronic inflammation. For the first of these, the symptoms are too various to afford any certain signs of the affection; the presence of fat in the evacuations, and the examination of the abdomen by the hand, suggest, but cannot positively determine, its presence. It is otherwise, according to the author, with inflammation of the pancreas. This is distinguished by a sense of weight in the epigastrium, which is especially manifest about two hours after eating, extending towards the breast with a feeling of oppression; loss of appetite, inodorous eructations, *malaise*, retching or even vomiting, although the tongue may remain clean; constipation; small, diminished pulse; emaciation; expression of features indicative of an abdominal affection; melancholy and sometimes weariness of life.

The author recommends, as a mode of treatment, the waters of Friedricks-hall, in small doses.—*Ed. Med. Jour. from Vierteljahrschrift fur die Praktische Heilkunde*, 1853.

Sidney Smith as a Country Doctor.—"But I came up to speak to Annie Kay. Where is Annie Kay? Ring the bell for Annie Kay." Kay appeared. "Bring me my medicine book, Annie Kay. Kay is my apothecary's boy, and makes up my medicines." Kay appears with the book. "I am a great doctor; would you like to hear some of my medicines?" "Oh yes, Mr. Sidney." "Here is the gentle-joy, a pleasure to take it; the bull-dog, for more serious cases; Peter's puke; heart's delight, the comfort of all the old women in the village; rub-a-dub, a capital embrocation; dead-stop, settles the matter at once; up-with-it-then, needs no explanation; and so on. Now, Annie Kay, give Mrs. Spratt a bottle of rub-a-dub; and to Mr. Coles, a dose of dead-stop, and twenty drops of laudanum. This is the house to be ill in (turning to us;) indeed every body who comes is expected to take a little something; I consider it a delicate compliment when my guests have a slight illness here. We have contrivances for every thing. Have you seen my patent armour?" "No." "Annie Kay, bring my patent armour. Now, look here, if you have a stiff neck or swelled face, here is this sweet case of tin filled with hot water, and covered with flannel, to put round your neck, and you are well directly. Likewise, a patent tin shoulder, in case of rheumatism. Here you see a stomach-tin, the greatest comfort in life; and lastly, here is a tin slipper, to be filled with hot water, which you can sit with in the drawing-room, should you come in chilled, without wetting your feet. Come and see my apothecary's shop." We all went down stairs, and entered a room filled entirely on one side with medicines, and on the other with every description of groceries and household or agricultural necessaries; in the centre, a large chest, forming a table, and divided into compartments for soap, candles, salt, and sugar. "Here you see," said he, "every human want before you."—*From "A Memoir" by Lady Holland.*

On Cold Abscesses. By M. JOBART.—The "hot" abscess or phlegmon is developed with great rapidity, causes more or less serious functional disturbance, is the occasion and seat of severe pain, and is mani-

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fested by coloration of the skin. The "cold" abscess, on the contrary, is developed insidiously, and ordinarily without appreciable cause; it causes no local irritation, and there is no other local sign than tumefaction of the affected part as compared with the sound side. The patient does not complain of pain unless the abscess is placed in the vicinity of a nerve. There is abundant fluctuation, and sometimes on pressure being made there is a peculiar sensation felt like that imparted by grains of rice or crushing snow. In phlegmon the pyogenic membrane is thin and easily destroyed, while in cold abscess, and especially when this is somewhat old, it is very solid, whitish, with a simple alveolar organization. The pus secreted is not matured like that of the pus of phlegmon, but is somewhat viscous and semi-transparent, having white caseous lumps floating in it, and containing the débris of the false membrane which sometimes establish adhesions between the walls of the collection. Contrary to what occurs in phlegmon, these abscesses may long remain in contact with surrounding tissues without inducing changes in them. Seeing the insensible mode in which the pus is secreted, we might almost say that the cold abscess is the result of a sort of local apathy of the region affected. These abscesses are usually found where the lymphatic vessels and glands are in large numbers; and although they are most commonly found superficial, they yet often occur among deep-seated organs. Although it is generally the case that the individual is a scrofulous subject, it is far from being always so; but, at all events, the abscesses only are found in persons enfeebled from this or other causes.

All treatment must be directed to the modification of the characters of the pyogenic membrane; and if this be not modified or destroyed throughout its whole extent, we shall see happen what takes place in vulvar abscess when this membrane is not totally destroyed, viz. the reproduction of the abscess after apparent cure. Iodine injections have been much employed with a view of obtaining such modification and inducing the secretion of coagulable lymph, by which the walls of the abscess may become united. M. Jobert finds them succeed only when the abscess is recent and of small extent. In old and large collections the long incisions of Lisfranc are best, taking care to destroy all the membrane and preventing undue hæmorrhage by plugging the wound with amadou. When the skin is thin and diseased, and does not possess sufficient vitality to effect any union with subjacent tissues, a portion must be excised, and the wound healed by granulation.—*Med. Times and Gaz., from Gaz. des Hopitaux.* No. 57.

Tin Tumbler taken from a patient, post-mortem, and which had been introduced by him into the rectum, for the purpose of reducing prolapsus of that intestine.—The tumbler was sent to the Boston Society for Medical Improvement by Dr. JOHN O. STONE, of New York city, and was presented, and the account of the case read, by Dr. H. O. STONE, of Boston. The following is an abstract of the detailed description of the case, read by Dr. S., and which was published in the Boston Medical and Surgical Journal of May 14th, 1834.

The patient introduced the tumbler on the 4th of April, 1834, causing

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its entrance into the bowel by sitting upon it. The tumbler being drawn upwards with the returning intestine, attempts were made by the patient to extract it, with his fingers, and by means of "shoe-maker's forceps." "With these he had considerably broken and flattened the edge of the base or rim, of the tumbler, and forced it beyond the rectum, into the colon." It was found in this situation by the physician who was summoned, Dr. G. Moodie, of North Andover, Mass. Dr. M. introduced his "hand and arm into the rectum, seized" the tumbler and "made a powerful" but unsuccessful "effort to extract it." The blunt hook was next tried, without extracting the tumbler, although it was brought down so that "it could be seen." "Owing to its flattened state, it hitched in the plicæ of the intestine." Several physicians and surgeons were called in consultation; among others, Dr. Joseph Kittredge, of Andover, and Dr. Whiting, of Haverhill. No efforts at extraction by the hook or the fingers were of any avail; although the tumbler was brought into view and seized, powerful efforts being again made to disengage it from its situation. One of the practitioners again introduced his hand, but could not bring the tumbler away. The patient asked to have his abdomen opened, and the foreign body thus removed. "He was told that this would produce certain death." A proposition to divide the levatores ani was negatived by Dr. Kittredge, who feared fatal hæmorrhage. "The patient lived about three days after this. His tongue sloughed, and there was gangrene of the large intestines. The tumbler was extracted after death: it measured 3½ inches in length, 3¼ inches in width, in the direction of the flattened part, and 2 inches across its base; it would hold nearly three gills." It is preserved in the Society's Cabinet.—*Boston Medical and Surgical Journal.*

On Calcareous Metastases. By RUDOLPH VIRCHOW.—Some years ago I was called on, in Berlin, to make the examination of the body of a young lady, the course of whose disease had baffled the diagnostic and therapeutic skill of her attendants. A member of one of the highest families, she had, in the bloom of youth and beauty, and without any assignable cause, begun to complain of dragging pains in the most different parts of the body; in spite of the most attentive treatment by physicians of the greatest experience, this apparent rheumatism steadily increased, the nutrition of the body was finally interfered with, and death put an end to her severe suffering, without any evident local affection having been discovered. The autopsy exhibited very numerous and extensive cancerous nodules in almost all the larger bones of the skeleton, particularly in the bodies of the vertebræ and the bones of the skull. But nowhere did these nodules project above the osseous surface, they were in almost every situation covered with periosteum without any material alteration of the level, and lay in large, irregularly corroded chasms in the bones. The loss which the latter suffered in their constituent elements, and especially in their calcareous parenchyma, was consequently very considerable.

Accordingly, it did not appear strange when, on examining the kidneys, we found in the pelvis and calyces great quantities of a dirty white

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deposit, in some parts sandy, in others crumbling, consisting principally of earthy carbonates and phosphates. But I was not a little surprised, on cutting through the lungs, to find in their central portions singularly dry patches of considerable extent, of a grayish white color, and rough to the touch, permeable to the air, but offering considerable resistance to the knife; and likewise to encounter in the stomach very extensive whitish parts, also very dry, and feeling almost sandy: a closer examination of both of which showed that the parenchyma of the lungs, and the mucous membrane of the stomach, were throughout overloaded with calcareous salts.

I had never before seen these changes, but they were so well marked that it appeared scarcely possible to doubt that we had to do with a metastatic deposit of those salts of lime which had been removed by absorption from the cavities in the bones. In rickets it has, indeed, been known since the celebrated case of Madame Supiot, that the urine in the commencement of the disease lets fall a chalky deposit, and nothing is more expressive than the remark of this unfortunate patient, that her limbs "were fermenting," when her urine was loaded with a large quantity of the sediment. Must we not in this case infer that the earthy salts which pass off with the urine are really derived from the bones?

If we add the experience afforded by the study of gout, where the urates which should be excreted by the kidneys become deposited on the joints, and, indeed, as Schroeder Van der Kolk has shown, on the tendons, ligaments, skin, nerves, and vessels, we shall be led to conclude that the salts of lime which in cases of great destruction to the bones, reach the blood in increased quantity, are first of all separated through the kidneys, but that when this mode of elimination is insufficient, other parts of the body become filled with them. Thus, also, we observe that jaundice does not become very evident until the elimination of the coloring matter of the bile by the urine is not sufficient to purify the blood, and if time should hereafter confirm the observation of H. Meckel, who found the Malphigian tufts full of salts of silver, in an epileptic person long treated with the nitrate of its oxide,—the well-known coloring of the external parts after the use of lunar caustic would certainly admit of our inferring the existence of a similar condition.

The observations which have been made in reference to the retention of urea, particularly those of Bernard, become of especial interest in connection with this subject. In such cases it would appear that the urea accumulated in the blood also effects its metastases, and that chiefly in the stomach abundant elimination of carbonate of ammonia takes place, while the strongly ammoniacal smell evolved from the lungs of uremic patients has long been familiar to the physician.

Little has been said by writers upon the calcification of the lungs and stomach. Voigtel has collected a great number of observations on ossification of these organs, yet none of them appear to correspond exactly to the case before us. The same may be said of the quotations of Cruveilhier, Joh. Fr. Meckel, and Hodgkin, for in this case we have

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neither a formation of bone, nor a peculiar concretion, but a fine infiltration or incrustation of the parts. In more recent authors I find nothing at all upon this point.—*Dublin Quarterly Journal.*

Case of Empyema on the right side, Acute Pleurisy on the left, simulating Pericarditis. By JOHN T. METCALFE, M. D.—John Armstrong, æt. 23, chairmaker, entered the New York Hospital Jan. 30th, 1855. One week before admission, had been taken with a cough, pain in the right chest, and dyspnœa. At the same time, there was observed a loss of appetite, a general febrile reaction, thirst and headache. The cough was accompanied by scanty expectoration of mucus, not characteristic in appearance. Since the commencement of his attack, these symptoms have all diminished with the exception of the stitch-like pain in the side, of which he complains a good deal. On admission, the pulse was 96; respiration 36; tongue moist, coated; eyes suffused; general appearance of distress; lies most comfortably on left side. The whole of the right chest dull on percussion; no vesicular murmur audible on this side; bronchial respiration (deep) and broncophony. On left side, nothing abnormal, except puerile respiration generally diffused, detrusion of heart's apex one inch to the left. *Wet cups to affected side. Mixture of Spirits of Mindererus and Ipecac. To take every four hours, a pill of calomel, squill, and digitalis (one grain of each).*

Under this treatment, with a blister to the side, there was evident amendment, so far as regarded the pain and dyspnœa. The chest seemed to become more distended however, the heart's apex being displaced as low as the sixth intercostal space, four inches to the left of the sternum. In place of the bronchial sounds audible on entrance, there was absence of respiration, except at the very summit of the right lung. The patient was able to get up and walk about the ward, but his appearance was far from satisfactory.

February 14. Just after having eaten dinner, he was suddenly seized with very great dyspnœa, the respiration ran up to 60 in a minute and the pulse to 120. The skin was cold and clammy; the eyes were anxious and protruding; there was complaint of pain on the left side, over the præcordial and epigastric regions. Breathing could only be performed whilst the patient was held up in bed. The left chest seemed alone engaged in respiration. Over the præcordial region, in its lower and outer half, a strong, well marked fremitus, synchronous with the cardiac systole, was noticed on palpation. Where this existed, a rough friction murmur with the first sound of the heart, not transmitted along the aortic branches, was noted. At the upper portion of right chest, under the clavicle, were resonant percussion, amphoric respiration, and metallic tinkling, very well marked. An anodyne was ordered, of the *compound spirit of sulphuric ether with the solution of sulphate of morphia;* and directions given to let me know in case relief should not be obtained, so that paracentesis of the chest should be performed. He continued with great oppression of breathing, and in the course of the night died, somewhat suddenly.

On post-mortem examination, the right lung was found compressed to

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a size of two fists, and forced back against the spine at the upper part of the pleural sac. On inflation through the main bronchus, air escaped by several small perforations on the upper surface of the lung. These perforations occurred in the wall of a tuberculous cavity of considerable size, which had been reduced, by the pressure of surrounding fluid, to very small dimensions. Fibrous exudation covered the outer surface of the lung. The pleura was nearly quite full of cream-like, inodorous pus.

In the left pleural cavity were several ounces of recent serous exudation, in which floated shreds of false membrane. The outer surface of the lung was roughened by this exudation, especially that part which lay over the heart, in contact with the costal pleura. The lung tissue contained a few scattered tubercles. Beyond slight enlargement of the heart, there was nothing noticed abnormal with respect to it or to the pericardium.

This case was one in which the dyspnœa had been explained, during life, by the perforation of the lung and production of pneumothorax. With regard to the friction-sound and fremitus, existing as they very markedly did over the præcordial region only, and synchronous with the systole of the heart, no one who saw the case for a moment doubted the presence of pericarditis as the cause of their production. Pleurisy so situated and giving rise to these signs, is of extremely rare occurrence. In my experience, I remember only one other case in which a similar error in diagnosis has occurred. In this there was fibrinous exudation over the pulmonary pleura, which is in direct contact with the pericardium.

The patient had been carefully examined by the House Physician with reference to his previous state of health, but gave no account of any illness connected with the tubercular excavation in the right lung. His intelligence was not of a high order; and every one familiar with the interrogation of a majority of those admitted to the hospitals, will understand the difficulty of getting a full and truthful account of their previous complaints.

34 *East Thirteenth street.* *N. Y. Med. Times.*

Certificates to the efficacy of secret remedies.—There are few ways in which good-natured people are doing so much harm, while meaning to do good, as in signing their names to medical certificates, to be distributed all over the land in the public newspapers, or thrust upon us, whether we will or no, at our very doors. This has got to be a crying evil in the land, and it is time it was corrected. It is doing much, very much, to impair the faith in remedies properly given, to shake confidence in the medical profession, and thus incidentally to re-act upon the community to their great disadvantage. It is a gross injury to the medical profession. It constantly taunts them with the insinuation, "Look here! what all your boasted science could not do, this man whom you denounce as an ignoramus, has done! This medicine has cured me; yours did me no good, and I might have been in my grave for all you!

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From this time forth, fling doctor's physic to the dogs, and let me have only the healing drugs of the inspired natural physician!" Waiving for a moment all question as to the amount of real efficacy in the remedies thus vaunted—granting even, for argument's sake, that the facts are as stated, what does it amount to? Only that a drug *taken* at the right moment has wrought a good effect, no more. For this shall it be emblazoned in every newspaper sheet as the great catholicon? Why, here are two hundred physicians in Boston, doing, with the blessing of Providence, precisely the same thing every day! And are they justified in proclaiming their skill and the power of their remedies for this reason? No true physician, at any rate, would give an affirmative answer. And yet their patients forsake them, or secretly use while under their care any nostrum their assiduous friends recommend. Or if they ask the advice of their physician as to the expediency of trying the remedy, he has no means of knowing its real character, and of course cannot recommend it. Still human nature is such that even the mystery which shrouds it gives it a fascination, particularly if the dose be *pleasant to the taste.* Men of respectable position in the community give up their business to devote themselves to the sale of the article, and untold sums are their reward. Grateful patients eagerly subscribe the certificate of its real or supposed virtues, while yet in the flush of their enthusiasm at its efficacy, and the document goes to the world, to add one more to the legion of medical delusions which are a stigma upon the present generation. Let any intelligent man go into a public hospital, and he will find numbers of patients who will tell even more extraordinary experiences of their own—how they were full of pain, motionless, helpless, but in twenty-four hours they were changed men, to all intents and purposes cured. Others will tell you that for years they had not had the use of their limbs, but now they walk rejoicing. Happy as these occurrences are, blessed indeed to the patients, the physician who has been the fortunate instrument in bringing them about does not, or ought not, to claim any exclusive merit; rather does he most willingly point out to his professional brethren the means he has used with such success. Thus is the blessing extended beyond his own immediate sphere, and no selfish thought of personal profit limits the exercise of his professional benevolence. The medical journals are crowded with reports of just such cases, which go forth over the whole world to bless mankind. Nay, *these very remedies* are not unfrequently taken up by shrewd nostrum venders, and after being disguised by some inert addition, are sold to the unsuspecting public at a profit of thousands per cent., without the least credit being given to the man who first applied it for such a purpose. But there is another very important consideration which is entirely overlooked by the patent-medicine-swallowing, or the puffed-medicine-swallowing community, which is this—*medicines positively effective for good are equally powerful for evil.* The knife is a catlin with two edges, let him who uses it see that he cuts not his own fingers. And this is no imaginary casualty. It is a fact well known to physicians, that cases are frequently brought under their own observation, of excellent reme-

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dies having been taken to great excess when not administered by the direction of a professional man. It is astonishing to see the recklessness with which people sometimes do this, taking *ad libitum* the most powerful medicines of the pharmacopœia, simply because under some circumstances they have been recommended to them by some respectable physician, who never intended they should be adopted into such promiscuous use. The charity of these good people is most liberally extended to their friends, inducing them to take the same, they alone being responsible for the consequences. And the reason for this—not always, but often—is to avoid the necessity of paying the physician the fee which is his due for advice on the subject. Again, supposing the the secret remedy to have been effectual in certain cases, *the cases in which it has failed or done harm* far out-number them, and of these the community hears not. Many of the cases of supposed cure turn out to be only transiently benefited, and the deluded sufferer only falls back again into greater hopelessness. Mean-while the certificate stands, and money pours into the pocket of the nostrum-vender—what else does he care for?

We would remark in conclusion that—medical discoveries should be the property of the human race; as free for the use of mankind as heaven's natural gifts of light and air. Only when open to such unrestricted use can their real value be tested. The noble calling of physician ought not to be degraded to a mere matter of making money; the community are as much interested in this as physicians, perhaps more so. By following the course which is getting to be so common, they are discouraging and starving those whom they ought to regard as their true friends.—*Boston Medical and Surgical Journal.*

SHORT NOTICES OF HOSPITAL THERAPEUTICS.

Artificial Eyes.—The following scraps of information as to the employment of artificial eyes, which we have acquired in watching the practice at the Royal Ophthalmic Hospital, may be welcome to some of our readers. (*a*) The success in the deception as to appearance is generally most complete. Several very pleasing cases have fallen under our notice, in which a glass eye, by hiding a loathsome deformity, and restoring personal appearance, became the means of effecting a complete revolution in the worldly prospects of the wearer. (*b*) In order to complete success, it is very desirable that the substitute eye should move well. This, however, is not essential, as should the two eyes not move equally the only defect suggested to the casual observer is that of a slight squint. (*c*) To secure the movements of the artificial organ, the natural globe, in its collapsed state, should, if possible, be retained in order to serve as a stump. This stump or cushion, receives the attached muscles and obeys their movements, of course carrying with the it concave glass eye which has been fitted upon it. (*d*) If the entire globe be diseased, and its removal necessary, the operation should be conducted on the modern plan, viz., by division of the muscles close to their attachments, nothing whatever excepting the globe itself being taken away. By this precau-

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tion the muscles will be left in their full length, and, becoming connected, in the course of healing, with the mass of cellular tissue, fat, etc., which remains in the orbit, will constitute a cushion possessed of a certain degree of mobility. (*e*) Glass eyes will not wear for ever. Even with careful patients the artificial eye generally requires to be renewed, or, at least, re-enamelled, once a year. It becomes coated at the back by concretions from the tears, and is then so irritating that its disuse becomes necessary. To obviate this inconvenience, patients should always remove them at night, and have them carefully washed; they should also, if convenient, lay them aside for a few days whenever the eye becomes irritable, or a greater tendency to deposit is observed than usual. (*f*) Among the poor this liability to soon become unwearable is a serious objection to their use. Some Surgeons have, indeed, almost ceased to recommend them to their Hospital patients on this account, reserving their employment for cases in which the sufferer appears more than usually intelligent, and likely to succeed in the management. (*g*) Mr. Gray, (of Goswell street,) the maker of artificial eyes to the Ophthalmic Hospital, informed us, in answer to inquiries on this head, that he thought an artificial eye might, with ordinary care, be kept in a good state at a cost of about fifteen shillings a year. This estimate, of course, applies only to a pauper patient, to whom cost price only would be charged.

Browning of the conjunctiva from Nitrate of Silver.—When solutions of nitrate of silver are long employed as eye-drops it is not unusual for a conjunctiva to assume a brown or olive hue. The staining is permanent unless removed by remedies. Mr. Critchett ordered, in a case of this kind which presented itself at the Moorfields Ophthalmic Hospital a few weeks ago, a solution of iodide of potassium (gr. viij. ad ℥j.) to be freely used. He stated that he had seen this lotion diminish the stain, but had never known it effect a complete removal. Cases in which nitrate of silver drops are used should always be carefully watched, in order at once to desist, should this change of color be caused. The sulcus of junction of the ocular and palpebral conjunctiva is the part where the staining commences, and if the Surgeon be particular to inspect this frequently, he will run no risk.

Mechanical support in case of Pendulous Abdomen.—There are certain cases of enlarged and pendulous abdomen which, when they occur in women, often excite suspicions either of pregnancy or of ovarian disease. Their true pathological nature we once heard pointedly indicated by a Borough obstetrician in three words—"fat, fæces, flatus." Every one of experience will recognize the condition we refer to, the subjects of which are usually stout phlegmatic women, liable to flatulence and intestinal torpidity. The state is one often found difficult of relief. We observe that Dr. West, at St. Bartholomew's Hospital, insists strongly upon the benefits derivable from affording to the bowels mechanical support. By the use of an abdominal bandage, applied as tightly as it can well be borne, the symptoms often disappear very quickly, and a patient whom nothing could convince that she was not either pregnant or dropsical, may have at once her hopes dissipated and her fears dispelled. The use of tonics, and mild purgatives (*e. g.* aloes) at the same tim

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of course advisable. Dr. West often employs frictions with tincture of aloes over the abdomen, with the object of restoring tone to the muscles of the abdominal wall and the intestines. We believe, however, that he considers mechanical support as the most important part of the plan. —*Medical Times and Gazette.*

Case of Chloroformization in Midwifery.

Dr. M'Clintock briefly related the history of a case of Chloroformization in Midwifery Practice, in order to show the great necessity that existed for always using the utmost caution and circumspection in the employment of choloroform inhalation in labor, as well as the great importance of intrusting its exhibition to none but a medical man. He did so because the writings and practice of some of the foremost advocates for anæsthesia had led many persons to suppose that the administration of chloroform to parturient cases was almost, if not entirely, free from danger,—a most dangerous fallacy, and one that would inevitably lead to disastrous consequences if generally acted on.

The leading circumstances of the case he brought forward were these: —A healthy woman, aged 28, was admitted into the Lying-in Hospital in labor of her first child, some days before. The first stage was very t dious in consequence of an unyielding condition of the os uteri, and much general irritability. With a view to relieve this state, and to give her some rest, as she was much harassed by frequent short pains, it was thought advisable to put her under the influence of chloroform. For about an hour she got it in small quantities,—in fact, merely *chloroform à la reine*,—but without experiencing any benefit, and without its producing any anæsthetic or soporific effect. The quantity put on the sponge, a large cup-shaped one, was now increased, but still could hardly have exceeded one drachm, and was not more than is habitually given in the hospital to patients undergoing obstetric operations, to which cases its use is chiefly limited; and it was administered by the senior assistant, who has had ample experience of its use, having given it before in hundreds of instances. After the sponge was reapplied to her mouth, and she had taken three or four inspirations, a change came over her countenance, the eyeballs turned up, the pulse left the wrist, respiration was suspended for a space of time that would have occupied about three or four inspirations, and some froth collected at the angles of the mouth. On the first appearance of these alarming symptoms the sponge was instantly withdrawn, the free circulation of fresh air was promoted, the face and chest were aspersed with cold water, and ammonia was applied to the nostrils. It should, perhaps, be mentioned, that during the entire of the above period she was in bed, and lying down. Under the influence of these restoratives animation grádually returned. It was evident, however, to all around—and many of the pupils were present—that she was all but gone, and that her life was preserved by the early recognition of the poisonous effects of the medicine, and the prompt and judicious employment of appropriate restoratives. Hardly any one will venture to deny that had this woman been in non-professional hands, her life would have been lost. That she got a dose of chloroform, which

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to her was an overdose, is sufficiently obvious; and yet the quantity given, the quality of the chloroform used, the mode of exhibition, and even the administrator, were all the same as on hundreds of previous occasions, when everything went on favorably. Hence, then, the absolute necessity for *invariably and uniformly observing the strictest caution, prudence, and circumspection in the employment of this powerful agent, and never intrusting its exhibition to a non-medical person.* A case that strikingly illustrates these remarks is recorded in the Medical Times and Gazette for April 14, 1855, where a lady died in the course of a natural labor from the effects of chloroform administered to her by the nurse, on a handkerchief, without the sanction or knowledge of the doctor, who was in the house at the time. The quantity used in this case, with fatal effect, could not have exceeded five fluid drachms.—*Dublin Quarterly Journal—Transactions of the College of Physicians in Ireland.*

On Albumen as a Cholagogue. By DR. R. GIESELER of Göttingen. —I am anxious to call the attention of the profession, briefly, to the employment of the albumen of hen's eggs in certain forms of jaundice.

Bernard's experiments, showing that this substance is assimilable only through the intervention of the hepatic function, immediately suggested to me the idea that in albumen we might find an adequate excitant of the liver. I inferred, first, that fatty nutriment, and in a higher degree albuminous articles of diet, must be avoided in inflammation of the liver; and secondly, that in torpid conditions of that organ we might possess in albumen a remedy capable of stimulating it to increased activity. If to the liver be assigned the task of rendering albumen adapted to assimilation, this substance must be a stimulant of it, which will, *mutatis mutandis*, set its function to work, in the same manner as the administration of saline medicines does that of the kidneys. It is scarcely necessary to add, that the establishment of these results by experience must secure to albumen not merely the character of an adequate stimulant, but also pre-eminence over all other so-called cholagogues, since the action of the latter is very uncertain.

I think it unnecessary to demonstrate the remarkable efficacy of albumen in this respect by the recital of cases, since it was, as I soon learned, already known to our predecessors. It, however, appears to me not unimportant to point out the source whence it would appear the recommendation to employ albumen as a remedy in jaundice was originally derived. Charles White, in his work on "The Treatment of Pregnant and Puerperal Women," states, that he once suffered for several weeks from jaundice, and was very much reduced. Soap, aloes, iron, and rhubarb, had been taken without the least benefit. A navy officer, happening to visit him, assured him he would cure him in a short time. He told him, in fact, that while on a voyage some time before, he was attacked with the same disease, and had in vain used the remedies prescribed by the surgeon of the vessel. A Spanish physician of the island of Minorca then advised him to take every morning, while fasting, two raw

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eggs, both yolk and white, in a glass of water, and to repeat the dose with one egg every four hours during the day. He followed this advice, and in three days his motions were again colored with bile. White tried the plan suggested, and found the effect attributed to the albumen to be confirmed; in three days the fæces were colored, which they had not been for six weeks before. He continued the use of the eggs for some months. He subsequently recommended the remedy to several patients, and always with good effect, except in cases in which the jaundice preceeded from the presence of gallstones. So far for the testimony of Mr. White. In the more modern treatises on therapeutics I have not been able to find any allusion to this application of albumen; the present communication cannot, therefore, be considered superfluous. A few of the older works recommend, not white of egg, but the yolk, probably on account of its yellow color. It is indeed possible that the action of the liver may be excited, not by the vitellin of the yolk, but merely by the albumen of the egg, with which Bernard experimented, and which White recommended in jaundice. Should this supposition prove correct, it would explain why the remedy lapsed into oblivion, and would furnish an important proof in our day for the often misunderstood truth, that practical results do not become the property of science or art, until they are referred to correct principles.—*Dublin Quarterly Jour. from Zeitschrift fur Rationelle Medicin*, 1854.

On the Extensive Diffusion and Frequency of Starch Corpuscles in the Tissues of the Human Body. By THOMAS ALBERT CARTER.—Two years have now almost elapsed since Virchow first published his paper upon the presence of cellulose in the brain and spinal cord of man; in which he proved that the ependyma and its continuations contained bodies which, with sulphuric acid and iodine, struck a violet color, concluding from this circumstance that their chemical composition was that of cellulose. He also found them in the olfactory and optic nerves, and in a "waxy" spleen. Subsequently, Rokitansky observed similar bodies in the optic nerve, and Kölliker in the retina. It remained, however, for Mr. Busk to establish the fact, that the so-called cellulose corpuscles of Virchow were absolutely identical in every property—whether optical, physical, or chemical—with starch.* He, moreover, showed that this substance occupies a place in the tubular and vesicular portions of the human cerebrum and cerebellum. Since the valuable observations of Busk made their appearance, Mr. Stratford, of Toronto, has published a short paper† "upon the presence of starch in the blood of an epileptic patient," in which he also states, that he has met with it in the eye of a boy, removed in consequence of fungus hæmatodes, and in several specimens of urine.

In December last, an unsuccessful attempt to make out the intimate structure of an indurated tumour involving the optic nerve, induced me, as a last resource, to apply the appropriate tests for the detection of

* *Quarterly Journal of Microscopical Science*, for January, 1854.
† Ibid., for January, 1855.

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cellulose. To my great surprise, after the addition of the reagents, I noticed a number of bodies, generally circular or oval in outline, passing from the lightest shades of purple to the densest black: these were evidently the cellulose corpuscles of Virchow, or the starch bodies of Busk, the latter of which they have since proved to be. Shortly afterwards I observed the same bodies in the pineal gland of man, and of the sheep. I then abandoned this subject, more urgent duties soliciting my attention, but resumed its investigation about the middle of last May, and have continued it up to the present time.

It is unnecessary to give a description of the "amyloid" corpuscles, and the proofs in favor of their being actually starch, for this would be simply reiterating the statements of Busk respecting them, which by experiment I have found to be perfectly correct. It may, however, be remarked that, in my examinations of structures from the human subject, I have encountered two distinct varieties—the one (described by Busk) resembling wheat starch, the other, and rarer kind, corresponding in every particular with that derived from the potato. In dimensions they vary much, ranging from 1–195th to less than a 1–4000th of an inch in diameter, the usual size being the 1–1000th.

The following are the observations I have had an opportunity of making on a number of cases, and these, it must be remembered, have not been selected, but given in the order in which they presented themselves, none being suppressed.

Observation 1. A man, N., æt. 39 years who died of phthisis pulmonalis, complicated with albuminuria.

A micro-chemical examination of the liver, which was of twice its ordinary weight, and presented in a marked degree the characters of waxy degeneration, revealed the presence of starch in great abundance. One demonstration exhibited fifty-two bodies of the ordinary size, adhering to, or imbedded in, a mass of transparent homogeneous tissue.

In the spleen and kidney, which were also "waxy," starch was found, abundantly in the former, in the latter somewhat sparingly.

Obs. 2. A woman, J. B., æt. 59 years, who died of apoplexy.

The tubular matter of the cerebrum, immediately surrounding the appoplectic clot, was subjected to an examination, and in it were found, associated with numerous compound granular cells, numbers of starch corpuscles. This observation does not apply to the healthy portions of the same brain, for, after a prolonged search, none could be detected. An ordinary amount* was observed in the spleen, kidney, and liver of this subject, all of which appeared perfectly normal.

Obs. 3. A female, M. R., æt. 24, who died of phthisis pulmonalis.

* The expressions "small quantity," etc., I am aware, are extremely vague and indefinite; yet, by attaching to them a certain numerical value, they communicate an idea of amount with sufficient exactitude, and obviate the necessity of giving the precise number of bodies in each demonstration, which, to say the least of it, would have been a very tedious process. By the term "small quantity," as applied to the contents of a preparation, I wish the reader to understand from one to three corpuscles; by "ordinary amount," from five to eight; by "large amount," from ten to twenty or more. The value of synonyms, or intermediate expressions, will, of course, be duly appreciated.

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In the liver, which was somewhat waxy and slightly enlarged were found starch bodies of irregular form, as if developed in masses under pressure.

The spleen yielded a few. This, like the former organ, was in some degree waxy.

They were very numerous, and of large dimensions, in the kidney many attaining to the 1–400th part of an inch in diameter.

I noticed, in the pancreas and mesenteric glands of this subject, numbers of corpuscles, generally of oval form, measuring about the 1–400th of an inch in their longest, and about half that in their shortest diameter. The hilum was placed near one extremity, with a series of concentric elipsoidal markings surrounding it. Moreover, when seen by polarised light, they exhibited the four black or colored radii diverging from the hilum; in fact, they were in every respect identical with the amylum of the potato.

Obs. 4. A female, J. H., æt. 23 years, who died of phthisis pulmonalis.

Starch was found in the liver, kidney, spleen, pancreas, mesenteric glands, and supra-renal capsules, all of which organs were healthy, with the exception of the mesenteric glands, these being slightly enlarged: also in an indurated tubercular mass from the lung.

Obs. 5. A man, J. B., æt. 38 years. The immediate cause of death unknown. The heart and larger vessels, however, were diseased.

In the liver (slightly enlarged, but in other respects healthy,) kidneys, supra-renal capsules, spleen, corpora striata, pituitary body, and Pacchionian glands, starch was found. None could be discovered in the pancreas, after a very careful and prolonged search. This organ was very flaccid, and apparently diseased.

Obs. 6. A man, Y., æt. 17 years, who died of general anasarca.

The liver of this subject was congested, and to a small extent fatty; the spleen rather pulpy; both exhibited the usual amount. The pancreas, which was flabby, yielded a very small quantity. In a mass of degenerate pus found adhering to the peritoneal surface of the bladder, and in chronic pericardial exudation matter, they were also present.

Obs. 7. A boy, P., æt. 14 years, who died of apoplexy.

The liver, spleen, kidneys, supra-renal capsules, thyroid body, tonsils, and brain, contained starch in greater or less quantity. The kidney, in this case, was the viscus in which they were principally developed, both as regards number and size. By mensuration, I ascertained that one of them exceeded the 1–200th of an inch linear. All the organs appeared quite healthy.

Obs. 8. A youth, æt. 17 years, whose death was occasioned by an enormous fibro-nuclear tumour growing from the abdominal parietes, and general anasarca.

The existence of starch was determined in the liver, spleen, supra-renal capsules, and pancreas; in the last mentioned organ the rarer variety. It was found in all parts of the tumour with the greatest facility.

Obs. 9 and 10. A female, E. G., æt. 16 years, and a man, A. C., 43 years of age, both of whom died of phthisis.

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The following organs, which appeared healthy in both, contained the ordinary quantity:—the livers, kidneys, pancreatic and mesenteric glands. The supra-renal capsules of A. C. were examined, and with a like result.

Obs. 11. A man, æt. 33 years, who died of jaundice, together with œdema and erysipelas of the lower extremities.

All the organs mentioned in the two preceding cases were examined, and positive evidence of the presence of starch obtained; but the quantity in each was excessively small, more especially in the pancreas. With the exception of the liver, which was in an incipient state of cirrhosis, and deeply impregnated with the coloring matter of the bile, all the viscera were normal.

Among, and also within, the wavy bundles of fibrous tissue from the mesentery, starch grains of the ordinary dimensions were scattered with tolerable regularity, but for the most part at rather wide intervals.

Obs. 12. A child three weeks old. Cause of death unknown.

The liver contained a more than ordinary quantity: the kidney, spleen, and pancreas, the usual amount.

Obs. 13. A man, D. L., æt. 25 years, who died of diabetes mellitus.

Starch was of excessively rare occurrence in the liver of this subject; less rare in the pancreas; and the general amount observed in the spleen, kidneys, mesentery, and the white and grey matters of the cerebrum. Little was seen in the cerebellum.

In the ovaries and healthy portions of the lungs of two individuals who died of phthisis, its presence was determined; but none was discovered in the muscular substance of their hearts.

With a view of deciding whether starch is peculiar to the human subject, I submitted to examination the cerebrum, cerebellum, the liver, lung, spleen, kidney, striped muscular and areolar tissues, from the sheep; also the liver, lung, and yellow elastic tissue from the ligamentum nuchæ of the ox, the same facts being established regarding the structures from these animals as were previously mentioned with respect to man.

My observations have not been restricted to organs and tissues entirely, but extended to the various secretions and products of the body, in their normal as well as abnormal conditions. Thus, I have seen starch in healthy blood drawn from the finger, in pus, cancer juice, chronic lymph, bronchitic sputum, ichthyosis scales, tubercular matter from the lung, and in the urine (both alkaline and acid) of patients laboring under divers maladies:—Bright's disease, dyspepsia, acute articular rheumatism, pneumonia, etc. In some instances, it was associated with oxalates and phosphates, in others with uric acid and urates, and, again, as in the case of Bright's disease, and of a convalescent from rheumatism, with no deposit, save an almost inappreciable amount of epithelial debris.*

* The great majority of the above cases have occurred in the clinical wards of Prof. Bennett, to whom I have shown these bodies in the tissues and fluids referred to, and who has confirmed their presence.

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It may appear astonishing or perhaps incredible to many, that a substance so universally distributed should for such a long period have remained almost unnoticed by microscopical observers. The solution of this apparent enigma will, however, appear sufficiently simple when fully explained. It is well known to those who have applied themselves to the histological study of the various organs and tissues that fatty matters, frequently in the form of oil-globules, are almost invariably interspersed among the morphological elements of which they are composed. Now, to these globules the animal starch corpuscle bears a very marked resemblance, not merely in general form, but likewise in refractile properties. Can it then be looked upon as a matter of surprise, that the two have been confounded by those who have neither by chemical nor other means endeavored to discover their nature? In some instances, when recognised, as they often have been in the urine, they were considered either as fraudulent additions to, or accidental admixtures with, this excretion; possibly, with correctness in some cases, though by no means in all, as I have satisfied myself by experiments the most rigid.

Professor Bennett has pointed out to me the observations made by Schrant on Colloid corpuscles, and from the figures published by that observer, it would appear very probable that these also must occasionally have been mistaken for those of starch.*

If, then, the facts here recorded be taken for granted, the question immediately suggests itself:—are starch granules, when met with in the localities enumerated, the offspring of pathological causes, or the results of the healthy action of the economy? The majority of cases cited clearly show that they must generally be esteemed as physiological products, although, as with the other constitutents of the healthy body, an excess or diminution of them, or an *error loci*, may induce or constitute disease, and will probably hereafter be found to do so.

Regarding their functions, little can in the present state of our knowledge be said, except, perhaps, that they may be looked upon as thermogenic magazines, analogous to, but not identical in action with, the fat cell. We may indeed suppose, from their easy convertibility into grape sugar, and of this by oxidation into carbonic acid and water, that from them caloric is generated when a sudden demand is made for it by the system. Another, and a totally different view may be taken of the purpose they subserve in the economy, and one which does not carry us beyond the limits of possibility; viz., that instead of being converted into the compounds previously mentioned, they are simply metamorphosed into the lactic acid of the gastric secretion.

I certainly anticipated that an examination of the organs from the diabetic subject would have furnished a clue to the comprehension of the physiological and pathological importance of starch, but in vain. Upon reference to this case, it will be observed that, although of very rare occurrence in the hepatic and pancreatic organs, the usual amount was present in the others, so that no conclusive inferences could be drawn.

The development of individual starch grains in the plant is involved

**De Colloid-metamorphose der cel.*

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in so much obscurity that botanists have but partially elucidated the subject. I therefore refrain from hazarding an opinion upon their mode of growth in the animal tissues, though inclined to believe that both in the plant and animal their development is similar. In the former, as a general rule, a number of corpuscles is produced within the cavity of a cell; in the latter, this condition is apparently the exception. I have certainly, now and then, seen them occupying the cavity of large flaccid cells, but more frequently either isolated, or aggregated and cohering by interposed homogenous matter, which was either tinged yellow or remained unaffected by the solution of iodine.

Before concluding, let me remark that the chief aim in bringing these crude facts before the public has been to show that man, in common with some of the lower animals, must be regarded as a starch secreting organism, thus adding strength to that connection which exists between the animal and vegetable worlds.—*Edinburgh Medical Journal.*

Abstract of Meteorological Observations for July, 1855, *made at Philadelphia, Pa. Latitude* 39° 57′ 28″ *N., Longitude* 75° 10′ 40″ *W. from Greenwich.* By Prof. James A. Kirkpatrick.

1855. July.	Barometer. Daily Mean	Barometer. Mean Daily Range.	Thermom. Daily Mean	Thermom. Mean Daily Range	Dew Point 2 P.M.	Force of Vapor 2 P.M.	Rel. Humid. 2 P.M.	Rain.	Prevailing Winds.	Remarks.
	Inches.	Inches.	Deg.	Deg.	Deg.	Inches.	Hunds.	Inch.	Points.	
1	29.739	.036	85.7	3.0	70.6	.749	.53		SSW.	Clear; ev. heat lightning.
2	29.770	.058	84.3	2.0	67.0	.662	.52		SW.	M. and aft. clear; ev. cloudy.
3	29.950	.180	82.3	2.0	62.7	.570	.47		(Var.)	Cloudy.
4	29.853	.097	80.7	1.7	68.2	.689	.57	0.145	SW.	Cloudy; aft. and ev. rain.
5	29.884	.058	80.3	2.3	64.0	.597	.53		(Var.)	M. cloudy; aft. and ev. clear.
6	29.825	.070	78.0	2.3	73.6	.828	.78	0.165	(Var.)	Cl'y; *showery*; th'r & l'ng.
7	29.742	.109	69.0	9.0	63.8	.591	.89	1.353	NW.	Cloudy; m. and aft. rain.
8	29.965	.224	70 5	8.2	52.4	.395	.43		NNW.	Clear.
9	30.037	.071	73.3	3.8	58.8	.497	.45		(Var.)	M. clear; aft. and ev. cloudy.
10	29.883	.151	75.3	3.3	68.8	.703	.73		SW.	M. and ev. clear; aft. cloudy.
11	29.761	.122	79.3	5.7	69.3	.716	.64		SW.	M. and aft. cloudy; ev. clear.
12	29.743	.018	81.3	2.0	63.9	.594	.48		W.	Clear.
13	29.685	.058	80.8	1.8	72.1	.788	.68		SW.	Cloudy. *Bar. lowest* 29.631.
14	29.828	.143	79.8	1.0	61.4	.544	.47		NW.	Clear.
15	30.083	.255	78.5	2.0	64.6	.608	.51		NE.	Cloudy. *Bar. highest* 30.135.
16	30.107	.048	80.8	2.3	68.8	.704	.59		W.	M. hazy; aft. & ev. cloudy.
17	29.899	.116	83.7	2.8	73.4	.821	.62		SW.	M. cloudy; aft. and ev. clear.
18	29.863	.128	86.7	3.0	75.2	.873	.61		W.	M. and aft. cloudy; ev. clear.
19	29.755	.108	88.0	2.0	73.2	.818	.50		W.	Clear. *Th. highest* 92°
20	29.755	.054	84.3	4.3	74.2	.845	.54	2.835	(Var.)	Cloudy; ev. *rain*, th'r & l'ng.
21	29.854	.097	67.8	16.5	61.7	.550	.82	0.608	NE.	Cl'y; *driz'ng a raining* all day
22	29.956	.106	64.2	6.0	62.8	.570	.89	0.330	NE.	Cl'y; m. & a. *rain*. *Th. lowest* 57°
23	29.954	.019	72.3	8.2	68.3	.692	.77		(Var.)	Cloudy.
24	29.909	.055	80.8	8.5	76.4	.908	.75	0.167	SE.	Cl'dy; *showery*; ev. heat l'ng.
25	29.853	.047	83.7	2.8	78 5	.975	.76		WSW.	Cloudy.
26	29.792	.061	85.3	1.7	75.2	.872	.60	0.248	SW.	Cl'y; m. & ev. *rain*, with l'ng.
27	29.740	.052	85.0	1.0	73.6	.829	.60		SW.	Clear.
28	29.741	.010	82.3	2.7	73.9	.835	.65		NNE.	M. cloudy; aft. and ev. clear.
29	29.787	.046	84.8	2.5	71.2	.763	.56		NW.	M. cl'y; aft. & ev. cl'r. [rain.
30	29.780	.025	80.5	4.7	69.3	.716	.64	0.743	(Var.)	Cl'y; l'n.m. th. & l'ng, 2 to 8 P.M.
31	29.799	.041	81.7	2.8	71.6	.774	.64		(Var.)	M. cloudy; aft. and ev. clear
Means for July, 1855.	29.851	.086	79.7	3.9	68.7	.712	.62	6.594	S. 68° W., 43-100.	
Means for July, 5 yrs.	29.878	.082	77.6	3.7	59.4			5.780	S. 73½° W., 17-100.	

The Monthly Range of the Barometer was 0.490 of an inch, and of the Thermometer 38°.

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THE

MEDICAL EXAMINER.

NEW SERIES.—NO. CXXX.—OCTOBER, 1855.

ORIGINAL COMMUNICATIONS.

A new Apparatus for Fractures of the Leg, requiring Extension and Counter-Extension. By JOHN NEILL, M. D., Professor of Surgery in the Pennsylvania College, Surgeon to the Pennsylvania and Philadelphia Hospitals.

Comparatively few cases of fracture of the leg require the employment of any apparatus by which extension and counter-extension are effected. Simple means generally are sufficient in ordinary cases.

There are, however, some cases of simple fracture involving both bones, where the violence has been great, and where the line of fracture is very oblique, or near the ankle, in which it is impossible to maintain the fragments in accurate adaptation without resort to some means effecting permanent extension.

To accomplish this end various mechanical expedients are employed with results equally variable. The double inclined plane and its various modifications, Hutchinson's splints, the ordinary fracture-box, with the addition of the long splint of Desault for fracture of the thigh, together with many numerous patented machines, are the contrivances generally used.

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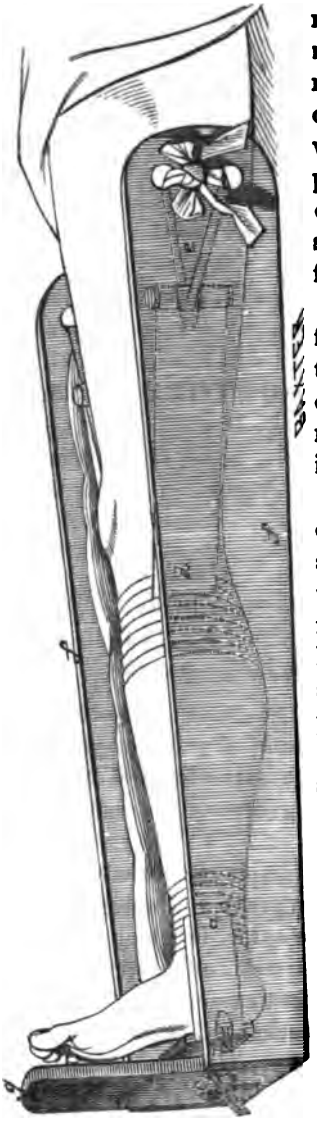
FIG. 1.



I need only appeal to the experience of those under whose care many such cases occur, to the numerous deformities in every extensive cabinet, and to the great ingenuity which has been displayed in this department of mechanical surgery, to establish the truth that there is a desideratum in the treatment of this fracture.

In endeavoring to supply this deficiency, I have resorted to a contrivance which I think is simple and effective, and which I believe to be novel, not only in its details, but in its principle.

For simple fractures of both bones of the leg, attended with shortening and deformity not easily overcome, the limb should be placed in a long fracture-box, with sides extending as high as the middle of the thigh, and a pillow should be used for compresses.

The counter-extension is made by strips of adhesive plaster one and a half inches in breadth, secured on each side of the leg below the knee and above the seat of fracture, by narrower strips of plaster applied circularly. The end of the counter-extending strips may then be secured to holes in the upper end of the sides of the fracture-box, by which the *line of the counter-extension is rendered nearly parallel with the limb.*

EXPLANATION OF FIG. 1.—*f. f.* The sides of the fracture-box. *g.* The foot-board.—*d.* Counter-extending strip of adhesive plaster. *e.* Loop of bandage securing the counter-extending band to the holes in the upper end of the box. *a.* Extending band of adhesive plaster. *b.* A small block wider than the foot to prevent pressure on the malleoli. *c.* Loop of bandage tied to the foot-board maintaining the extension.

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The extension is also to be made by adhesive strips in a mode which is now well known and understood. The ends of the extending bands may be fastened to the foot-board of the box.

In compound fractures of the leg, shortening and deformity are often difficult to overcome, as is well known to experienced surgeons. In such cases we may wish to dress the wounded soft parts, and at the same time maintain a certain amount of extension and counter-extension.

This can be readily accomplished by having the sides of the fracture-box sawed in two parts at the knee, so that the sides of the box above the knee, from the upper ends of which the counter-extension is made, need not be disturbed during the dressing, while that portion of the side of the box corresponding to the leg may be opened at pleasure, without diminishing the tension of the extending or counter-extending bands.

Fig. 2.

Explanation of Fig. 2.—*f. f.* Sides of the fracture-box corresponding to the thigh.

ee. Sides of the same corresponding to the leg.

a. Counter-extending band of adhesive plaster secured below the knee.

b. The same fastened to the upper end of the side of the box.

c. The extending adhesive strip.

d. The same secured to the foot-board.

In connection with the above apparatus, I may take this opportunity to suggest a new and easy mode of gradually increasing

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Fig. 3.]

the tension force in machines which may be applied either to fractures of the thigh or to the leg.

The object is often obtained by simply tying the ends of the extending and counter-extending bands to the extremities of the splint, or where it is found difficult to maintain the desired degree of tension, by screws and ratchets of various forms applied to the ordinary splints. The improvement consists in making the extension and counter-extension in a *continuous line*, and of a simple means of gradually and powerfully increasing the force.

To illustrate this application, take, for instance, a case of fracture of the thigh, in which a Physick's Desault has been applied in the usual way. Instead of securing the extremities of the counter-extending perineal band to the two holes in the upper end of the splint, and the extremities of the extending band to the hole in the lower end of the splint, let these bands be carried through their respective holes and *secured*

Explanation of Fig. 3.—*E. S.* External splint of Physick's Desault. *b.* Counter-extending band. *a.* Holes in the upper end of the splint. *g.* Extending band. *c. c.* An inelastic band or cord connecting the extending or counter-extending band. *d.* A stock by which *c. c.* is twisted.

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to each other about the middle of the outer splint. Thus we make the extension increase the counter-extension, and the reverse.

At the same time, by *simply twisting these united bands by a small stick*, we can increase and maintain the power as effectually as by the most complicated apparatus.

In simplicity and in power, this arrangement of the bands resembles the Spanish windlass or temporary tourniquet, made by a handkerchief and stick. Its operation is upon the same principle as Gilbert's Twisted Rope for Dislocation.

Operations for Cataract, upon two brothers, who were deaf, dumb, and blind. By GEORGE DOCK, M. D., of Harrisburg, Pa.

In the dusty arena of the medical profession, cases occasionally come under the notice of the practitioner, a short history of which, from their rareness and peculiarity, may not be unacceptable for the perusal of his professional brethren. Such are the cases, the history of which I now offer, should you deem them worthy of a place in your valuable Journal.

In the spring of 1853, a gentleman named James Devor, of Perry county, Pa., came to my office to consult me in relation to the case of his two brothers, and to solicit my services on their behalf. His account of them was as follows: "They were both born deaf and dumb; at a proper age were sent to Philadelphia to be educated at the Asylum for the Deaf and Dumb. After having completed their course of instruction at that place, they returned home (to Franklin Co.) fine, active, intelligent boys. Their names are William and John. William is 50, John 39 years of age. At the age of 35 William became blind, and at 28 John lost his sight, so that to the present time they have been respectively blind fifteen and eleven years."

Upon hearing the above account of them, I was, at first, inclined to look upon them as hopeless cases, but as he insisted that I should visit them, I consented to do so. On the appointed day I took the cars, and in a few hours arrived at their house. It was then about twilight, and upon entering the room I found the two brothers sitting side by side, like two statues, perfectly

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unconscious of everything around them, and only satisfying themselves of each other's presence by occasionally extending the hand and so feeling each other. By the way, they were almost inseparable, the one manifesting signs of uneasiness and discontent whenever he would find the other absent from him. Being curious to learn their method of communication with each other and the rest of the family, a sister took one of them by the hand and very dexterously manœuvred his fingers in the language of the dumb alphabet, thus informing him of my presence and the object of my visit. His sad countenance lit up with a gleam of satisfaction and hope, and he immediately took the hand of his brother, and, in like manner, communicated the intelligence to him. A more interesting sight I think I never witnessed. There they sat, two fine looking, intelligent men, cut off from all the avenues of knowledge of the external world, with nought left them but the power of thought, and that, apparently, the greater part of the time, concentrated upon the gloomy consciousness of their sad lot. Their privations were almost greater than in the case of the unfortunate Laura Bridgman, from the fact of their having had the enjoyment of vision long previous to the loss of it, thus causing them to feel more keenly the present deprivation of it. John seemed somewhat cheerful at times, and was in the enjoyment of good physical health, but the elder brother was more despondent, his mind was irritable, his features were haggard and care-worn, his general health impaired, and his body and limbs becoming emaciated. Long confinement and the want of physical exercise shewed their marks upon him, and had considerably shattered his constitution. Unable to make any satisfactory examination of their eyes that night, I retired; wondering whether it should be my privilege to be, in the hands of Providence, the instrument by which they might be released from their prison of darkness. Upon going down stairs in the morning, I found them both in their accustomed seats, anxiously awaiting me. Upon an examination of their eyes I was overjoyed at finding John's vision obstructed by a clean, pretty firm, pearly cataract of each eye: iris healthy, and retina evidently possessing good tone and sensibility. I then examined William's, but here I was less encouraged: there was cataract also of both eyes, but I found at a glance, that the

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retina had, from long inactivity and deprivation of the stimulus of light, become partially amaurotic: the pupils largely dilated and responding but little to the changes of light. I feared the mere removal of the cataract would be of little avail, but, as he had nothing to lose, he insisted that I should operate on him also, if I concluded to do so upon his brother. I dropped a solution of atrophine in one eye of each of them, and in half an hour they were both prepared for operation. I took John first, and with a very delicate, slightly curved needle, performed the operation of reclination: succeeding handsomely in lodging the lens and capsule gently into the desired place, leaving a clear, black, and beautiful pupil. I had scarcely withdrawn my instrument when he gave signs of light having poured into his eye, and of his great delight and encouragement as to the entire restoration of his long lost sight.

After disposing of him properly, I operated upon William in the same manner as in John's case, and also succeeded in removing the entire cataract, leaving a large, clear, black pupil, but the light, when let into the eye, produced very little effect upon it, and he appeared a good deal disheartened when he found the operation was finished and there was but little change in his vision.

I returned home, and in a couple of weeks—having received several letters from Dr. Crawford, informing me of their favorable condition and improvement, and great desire to have the other eyes operated upon—I visited them again and found their eyes entirely free from inflammation, and, in John's case, vision good; in William's, a slight improvement, but still imperfect. I now operated upon them again, with equal facility as upon the first occasion, leaving them in charge of Dr. Crawford.

About one month after the last operation had been performed, I received a very encouraging letter from the brother who had employed me, inviting me to pay them a visit. I did so, and found them in the following condition: John was standing in the lane when I approached the house, and as soon as I alighted from the carriage he ran to meet me, grasped me by the hand and made all kinds of demonstrations of joy and gratitude; pointed away down the beautiful valley, to houses and other objects a mile distant from where we stood; made motions that he could

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shoot with a gun, and go out hunting over the hills. We then went into the house, and I took my pencil and wrote several questions on a bit of paper and handed it to him; he put on a pair of cataract glasses that I had sent to him, and after reading off rapidly what I had written, he took my pencil and wrote his answers to them in quite a good hand writing. He told me his sight was perfectly restored, and as strong as it had ever been before he became blind.

I then asked for his brother William, and was told he was out in the garden, where he was in the habit of sauntering about for exercise. He was brought into the house, and upon examination of his eyes I found some improvement; he could see well enough to walk about with freedom, but could not discern small objects nor distinguish the countenances of persons. The pupils were unobstructed and clear, but were still too large and indolent. I prescribed for him a course of tonic treatment of some of the vegetable bitters, and iron and daily exercise in the open air; the result of which, I had the pleasure of learning some weeks afterward, was great improvement of his general health, with a gradual and encouraging amendment of his vision.

Out of nearly sixty cases that I have operated upon, I know of none which enlisted my sympathy to a greater degree, or the history of which was more interesting or the result of my humble efforts more gratifying.

Report of a Case of Imperforate Rectum, sucessfully operated upon. By R. A. F. Penrose, M.D.

The child who possessed the peculiar conformation alluded to in the heading of our report, was born on the 10th of July, 1855. Upon examination, after birth, it presented nothing unusual, being a boy, and apparently well formed in every respect. Visiting the mother next day, and finding its bowels had not been opened, some of the ordinary remedies were directed with the object of procuring a passage, and these failing, a dose of castor oil was given, but with like results.

On the following day, the child's bowels still being unmoved, I resolved to administer to it myself an injection into the rectum; the end of the syringe passed the anus without difficulty, but, to my surprise, the whole of the injection returned as fast

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as forced up. A careful examination was now made, which led to the discovery of the obstruction.

Externally, the anus was found perfectly formed; a bougie introduced into it passed the sphincter without difficulty, but was arrested after having penetrated about an inch and a quarter, the rectum terminating here in a blind pouch.

The propriety of an operation being undoubted, it was determined to perform it at once, the condition of the child demanding, if possible, immediate relief. It had become, by this time, very restless and uneasy, strained frequently and violently, as if trying to evacuate the contents of its bowels; its belly was, also, much swollen and discolored; until this day, it had taken the breast well, but now refused it, exhibiting every mark of suffering, and no little nervous irritation.

The operation was performed in the following manner:

The child being held in the lap of an assistant, a finger was introduced into the rectum until arrested by the termination of the gut; an exploring needle in a canula was now slid along the finger, and forced into the septum, in the direction in which the gut should run. This structure proved tough and resisting, yielding and slipping to one side, rather than allowing the needle to pass. After several ineffectual attempts, the needle at last passed through the obstruction, on withdrawing it, and then the canula, a very small drop of meconium was found in the tube of the latter. Through the passage thus made with the exploring needle, a grooved director was now passed; along the groove of this director another was slid, and then rotated so as to bring its groove opposite the groove of the first director, in other words, making a tube through which the meconium might flow; at once this began slowly to be discharged. To facilitate its passage, and, at the same time, to enlarge the opening, a small piece of wood was now placed between the two directors near the anus, and then by pressing the handles together, the opposite ends were separated considerably, and the opening much dilated. The meconium began at once to pass profusely and without difficulty, to the immediate relief of the child.

Keeping the directors in the opening, a very large gum elastic bougie was now passed up between them, and finally this was withdrawn, and the little finger introduced through the opening

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made, tearing and dilating it still more, until it was almost of the same diameter as the portion of intestine above and below it.

The septum through which the opening was made, seemed, as nearly as could be determined by the finger, about a quarter of an inch in thickness, of a firm, fibrous or cartilaginous character, the gut immediately above and below it being of natural size.

During all these manipulations, which must have occupied half an hour at least, the child seemed to suffer very little, being apparently almost entirely occupied with its efforts to evacuate its accumulated meconium through the passage made; the principal sign of uneasiness being hiccough, as the strictured part was being torn and dilated.

A copious discharge from the bowels having now taken place, a well greased plug of lint was passed up to the strictured part, the lower portion being allowed to protrude through the anus, and the sixth of a drop of laudanum was given to the child, with directions to repeat it as often as might be necessary through the night.

A few extracts from the notes on the case will complete its history:

July 14th.—The child has had quite a comfortable night, having taken altogether about three quarters of a drop of laudanum. Bowels open several times without much straining; belly not nearly so much distended; child disposed to take the breast. Another greased plug introduced; laudanum continued; at night a fresh plug.

July 15th.—Child still does well; belly almost natural size; sleeps most of the time; bowels opened frequently. As the plug seemed to give rise to a good deal of irritation of the rectum, it was now dispensed with, and the introduction of a bougie twice a day adopted as a substitute.

From this time, the child continued to do well; its treatment being the introduction of a large bougie, twice daily, except when it seemed to irritate too much; the use of opium, taking from one, to one and a half drops of laudanum in twenty-four hours, for almost two weeks, after which it was gradually omitted.

The gum bougie was used daily for two weeks, after that, less and less frequently, until at the present time, when it is used about every eight or ten days. The child now, ten weeks after

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the operation, is fat and healthy, its bowels being open naturally and without difficulty.

The advantages of the operation above detailed, for similar cases, consists in its great safety; the only puncture made with the exploring needle, being so small, that if it even should penetrate into the cavity of the abdomen, the injury might prove comparatively harmless; whilst as soon as it has passed into the extremity of the gut beyond, a way is opened for the introduction of directors, and the subsequent enlargement accomplished by dilating and tearing, and not by cutting.

Upon the digestibility of Iodide of Starch. By Dr. Jütte.

(Translated for the Examiner.)

Many physicians, when prescribing preparations of iodine, forbid the use of amylaceous food; acting upon the theory, that, from the great affinity of iodine to starch, the iodide of starch must be formed, which, as such, would pass from the body *undissolved*, whereby the action of the medicine would be weakened or wholly destroyed. The iodide of starch is, however, of so unstable a composition that it is easily decomposed, even by the saliva; the iodine entering again into soluble *absorbable* combinations, can be again recognised in the urine. In order to prove this, the author gave frequently the iodide of starch. It was prepared in the following manner: One ounce of wet starch was rubbed up with two drachms of tincture of iodine, and the mass dried. Of this powder there were taken, three times daily, ten grains, corresponding to one quarter of a grain of iodine at a dose. The examination of the urine was conducted in the following manner: The urine was mixed with some pulverised starch in a small proof glass, then a sufficient quantity of chlorine water was added; the previous white fluid became more or less violet-colored from the presence of the iodine; else a large quantity of the urine was evaporated to one tenth of its volume, then a few drops of sulphuric acid added, and immediately a paper spread with starch paste held over it. In every case when the iodide of starch had been taken, the author succeeded in detecting the presence of iodine in the urine. Sometimes it was difficult, immediately after the first dose of the iodide, to detect the iodine, there being but a slight reaction, on account of the insufficient sensibility of the reagent, which, however, be-

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comes evident when several doses are given. In such cases, one can use the chloride of palladium, which is extremely sensitive, and leaves no doubt of the final passage of the iodine into the urine. It seems, therefore, unnecessary to deny the use of amylaceous food to patients while taking iodine.—*Günsb. Zetschr.* v. 6. 1854., *Schmidt's Jahr.*

Upon the inefficacy of Phosphate of Lime.

Experiments have been instituted in the Bethany Hospital, at Berlin, with reference to the use of phosphate of lime recommended by Beneke, in cases of atrophical children, persons with scrofulous affections, caries of the joints, suppurating lymphatic glands, spina ventosa, &c. Not the slightest improvement, not even the amelioration of a symptom, was evidenced. In every instance, an increase of the affection was observed. The preparation ordered was from two to four grains three times daily, which was continued without interruption for eight weeks. —*Günns. Zetschr.* v. 6. 1854., *Schmidt's Jahr.*

BIBLIOGRAPHICAL NOTICES.

Yellow Fever, considered in its Historical, Pathological, Etiological, and Therapeutical Relations: Including a sketch of the Disease as it has occurred in Philadelphia from the year 1699 *to* 1853; *with an examination of the connection between it and the Fevers known under the same name in other parts of Temperate as well as in Tropical Regions.* By R. La Roche, M. D., &c., &c. Two volumes, pp. 615 and 813. 8vo., with a Bibliography. pp. 45.

Two large volumes, containing nearly fifteen hundred closely printed pages on the subject of Yellow Fever alone. We can readily conceive what a sensation will be produced by the mere announcement of this fact, on the entire medical profession, the members of which will be at once divided, on the occasion, into two great parties, each containing its subdivisions. We do not advert now to the differences of opinion on the doctrines involved in a discussion of the origin, spread and treatment of yellow fever,

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which are so thoroughly investigated in its pages. Our reference is to the different feelings with which it will be received by, on the one part, the many who scarcely read at all, added to the goodly number of those who think they do their duty when they read a paper or two in each successive number of some medical journal; and, on the other part, by conscientious students and observers who are intent on learning, as far as possible, through every known channel, and from every reliable quarter, all the phenomena of diseases, and all the means ever used for their prevention and cure, in order that they may be prepared for any emergency, whether it be in the shape of a new rebellious outbreak of endemia, or of a direful siege by pestilential epidemia, or the combined assaults of both. The first mentioned classes of the brethren will, we fear, be disposed to look on Dr. La Roche's work in the light of an inconvenient reminder of a duty, which, wanting inclination to discharge, they may try to evade, under the plea of its being unnecessarily voluminous. Nor is the plea without weight when made by those who hardly ever venture on the perusal of a volume of even the most diminutive size. By the studious, the inquiring, the progressive and improving members of the profession (do they constitute a majority?) this work will be received with gratitude as a real boon, and read with avidity, and afterwards treasured up for ready reference, as an encyclopædia, in which all the facts, explanations, and elucidations bearing on the whole subject of yellow fever, will be found under appropriate heads; at the same time that these are presented in the several relations and connections which belong to a systematic treatise.

The reasons for an extended history of the kind, are, 1, the importance of the subject; 2, the amount and value of the records from which the materials are obtained for its composition. On the first of these points there can scarcely be, in relation to the present work, a difference of opinion. A disease which, at various times, has assailed all the great marts of commerce in the United States, from Boston to New Orleans, and inflicted on their inhabitants a greater loss of life, and incomparably greater gloom and distress, and interruptions to social and business intercourse, than would have ensued from siege and blockade, must excite the attention of the most indifferent and rouse the

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sympathies of the most apathetic. It is, indeed, a fit and a great theme for history, viewed as a methodical record of startling and fearful events, mingled with grave reflections, and set off by vivid pictures of human nature in its most contrasted features; here of intense selfishness and cowardice; there of devotion to others at a sacrifice of personal comfort, health and life itself, in a more heroic spirit than would prompt the bravest soldier to join the forlorn hope and advance to "the imminent deadly breach."

In other lands on this Continent, and in some of the chief cities of Southern Europe, yellow fever has, also, proved a scourge, more severe and destructive in some instances than it has been in our country; and in them, also, death's doings are invested with an importance which fits them for the page of history.

Of the number and copiousness of the writings on yellow fever, in the shape of separate volumes, essays, and papers in Medical Journals and the Transactions of Societies, Official Reports, &c., in different languages, constituting rich materials for a full history, the most superficial reader cannot now be ignorant, thanks to the patient researches of Dr. La Roche. In a Bibliography of forty-five pages, prefixed to the first volume, we read the titles of nearly a thousand (987) different productions of the pen, more or less descriptive of or bearing on the subject of this fever. We may add, that, if we except a hundred or so of this long catalogue, all the works in it have passed under the inspection of the author of the volumes now before us, and been turned by him to suitable account. The larger number of these, "*Memoires pour servir à l'histoire*" are in the English and French languages; some in Spanish and Italian, and a few in German and Latin. Every page of his own work bears proof of the frequency and extent of his references to these commemorative writings of his predecessors, and of not a few of his contemporaries, while often repeating their own words on the occasion.

It would be presumptuous to assert that Dr. La Roche is the first to write a methodical Treatise on Yellow Fever, or that all the topics of which he treats have not been examined separately, and nearly under every aspect, by some one writer or another, and often by many writers. We could quote passages from them of more vivid description and easier flow of narrative, and of scenes

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of touching interest more dramatically told. But, in vain shall we look around us with the expectation of finding, in any language, the medical history of yellow fever in all its amplitude of outline and minuteness of detail, brought down to the present day, and written with the severity of logic, and the illustrative aids of natural philosophy, chemistry, morbid anatomy and micrology, and the statistical tests of the relative extent of the causes, the mortality and the results of the treatment of this fever, which impart such distinctive features to these volumes. They constitute, in every sense, a great work, whether we regard its size, the labor spent in its preparation, or the learning in collecting, and the assiduity and method in the distribution and arrangement of the materials.

The author's mind is essentially analytical, and hence he loves to study each element of the subject under examination, separately, rather than in its contingent aspects and incidental relations. In this, if restricted to an alternative, he is undoubtedly correct; but we might sometimes wish, that after the separate parts were examined and thoroughly scrutinized, they had been more frequently grouped, so as to exhibit the entire picture, with the incidental yet characteristic touches which increase its effects. To this it may be replied, that he writes the internal, the material history of yellow fever, and leaves its psychological, ethical and social bearings and results to other pens who may choose to describe them. He would not have satisfied either himself or his readers by the few bold and graphic touches with which Thucydides places before us the plague that ravaged Athens, in the second year of the Peloponnesian war, nor by the minute personal descriptions and occasional dialogue, assuming at times a dramatic character, which mark De Foe's History of the Great Plague of London in 1665. Still less would he care to imitate Lamartine, even if he possessed the poetical fervor and rich fancy of this writer, by the production of a series of brilliant pictures in which chronology is forgotten and accuracy too often sacrificed to effect.

In our notice of the present work we can only hope, after having stated our impressions of its meritorious character and of its opportune appearance at this time, to introduce some evidences of the author's patient and laborious method of investigation, and

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the heads of the prominent topics of which he treats. In his preface he gives the reasons which influence him in writing the work, and some explanations of its general plan. We should prefer seeing the explanatory part transferred to the beginning of his "Preliminary Observations," with which the work regularly opens, so that the reader would find at once the "Argument" or view of the range which the author intended to take, and the outlines which he proposed to fill up. The title and the preface tell this; but a distinct declaration, that the history of yellow fever, wherever it has displayed itself in different parts of the world, would be given, in connection with, and as an extended commentary on its forms of exhibition in Philadelphia, might well have preceded, as a general opening, the first topic discussed, viz: the Medical Topography of this city. But whatever, in the way of minor criticism, may be said as to the fashion of announcement of the course intended to be pursued, there cannot be much difference of opinion as to the propriety of the one actually taken. The historical sketch of the successive epidemics, in the shape of yellow fever, which have appeared in Philadelphia from 1699 to 1853, both inclusive, together with an account of the Medical Topography, Climate and Population of the city, constitute an appropriate introduction, and, as it were, a preparation for entering on the study of the disease in its world-wide visitations. The actual connection between the fever and certain localities, season, and temperature, and its reputed importation and contagion, are questions with which the reader, after a perusal of the "Preliminary Observations," becomes familiar; and for the full investigation of which he will be, in consequence, the better prepared to follow the author in different chapters of the body of the work.

This historical sketch possesses value in another point of view, viz., as a part of general history, and as a model for writers on both endemic and epidemic diseases, who ought to feel the necessity of combining a description of the place (region or city) and its fixed climatic character, with a narrative of these diseases and the associated and resulting circumstances of which it has been the theatre. Dr. La Roche in these respects follows worthily the advice and example set by our great master and teacher,

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Hippocrates, who is so often referred to and so little studied and known by his reputed followers.

Being fully impressed with the importance of the matters treated of in the Preliminary Observations, and believing that our distant readers, and all indeed who have not visited Philadelphia, will take an interest in the topographical description and narrative of its epidemics of yellow fever, we shall introduce here the prominent portions relating to these subjects.

Situation of Philadelphia.—This city is situated on the river Delaware in 39°.37′ N. lat., and 75°.8 W. long., 120 miles, by the course of the river, from the Atlantic ocean, and sixty miles in a direct line to the mouth of the river; or 48 in a line through New Jersey. It lies between the rivers Delaware and Schuylkill, "on a modern tertiary formation, consisting of sand and gravel, for the most part overlaid with a thick stratum of clay, of various hues and degrees of tenacity, the whole resting upon a primitive basis which lies at the distance of from forty to fifty feet beneath the surface, but shows itself in some of the northern districts." Various marine deposits show that the entire site of the city was once covered by the sea. Water is easily obtained in any part of the city, at depths varying from ten or twelve to thirty feet. The elevation of the soil above low water mark varies from two to forty-six feet, "the most elevated portion being about the third of the way between the Delaware and Schuylkill." The ground rises in the northwest and along the banks of the Schuylkill in that direction, and declines to the south to the point of junction of the two rivers. The tract between this latter and the city is called the Neck, and is low, flat and marshy: it is, for the most part, meadow land, and the remainder is laid out in gardens, from which the city is largely supplied with fruits, and still more with vegetables.

"The Delaware, opposite to Philadelphia, is about one mile in width, and of sufficient depth to admit vessels of heavy burden. It rises and falls with the tide between five and six feet in common times; but, during a long continuance of violent north winds, it occasionally reaches a height of from seven to nine feet beyond its common level. It flows at the rate of from two and a half to five miles an hour; the tide running seven hours up and five down."

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The author next speaks of the ground plot of Philadelphia, the well graded and paved streets, and commodious side walks, the gutters and sewers communicating with the river. The houses of recent construction are supplied with water closets; but more commonly the privies are in the yard or garden, their wells being dug sufficiently deep to reach a vein of water. The city is supplied with an abundance of good water from the Schuylkill.

Exceptions to the generally healthful arrangement of the streets and proper ventilation, are pointed out in the case of Water street, "which plays an important part in most of our yellow fever epidemics." It runs along and under the original bank of the Delaware, from one extremity of the city to the other. The houses on the western side of the street are built against the elevated ground, which was once the bank of the river, and hence the lower story at the back part is constantly damp, and even wet, at times, by the percolation of moisture from the earth, against which the lower part of the wall rests. There is, of course, no yard room, and the privies are placed in the cellar. On the other or eastern side of the street, nearest to the river, the houses back on the stores and warehouses, which are built along the wharves facing the river; and here again is a want of common space for yard, so as to allow of ventilation, or the construction even of privies. The street itself is narrow and lined on both sides with high houses, once occupied by the better and some of the wealthier classes; but for a long time past they have been either converted into warehouses and petty shops, or are tenanted by lately arrived emigrants, poverty stricken residents and sailors, &c. The whole of Water street is an encroachment on the original plan of Philadelphia, as laid down by Penn; and scarcely ever has an infraction of the laws of hygiene, as it is, been so severely punished by the fatal diseases, especially yellow fever, of which it has been the frequent seat.

Other exceptions to the harmony of plan "as regards the general arrangement, convenience, and healthful construction of the city, consist in a number of alleys, closed courts, lanes, or narrow streets, by which the blocks of buildings (or squares, as we denominate the space extending from one street to another), originally laid out, are in some places subdivided. These receptacles, which are more frequently found in the southern and northwestern portions of the city proper, and still oftener in some parts of the suburbs, are occupied by the black and poorer

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classes of the population; by stables, and other establishments of the kind. Alleys of twenty feet wide are paved and lighted; the houses have yards and privies; but, in the smaller ones, nothing or little of this is to be found. They are not paved, and seldom cleansed; they are ill-ventilated, compactly built, in many places with small badly-constructed frame houses, many of which are in a state of dilapidation and crowded, and present often a melancholy picture of filthy wretchedness and misery."

The construction and distribution of the wharves along the Delaware, on the city front, are thus described:—

"The wharves, or quays, which now extend several miles along the margin of the Delaware, are built of square casements of logs, filled up with earth, vessel-ballast, and stones. The surface of these wharves, as also of the street running all along the river, is paved—an improvement of the last twenty years only—while the street itself, which, from the projection of many buildings, was both irregular and inconvenient, has been, by means of funds bequeathed for that purpose by the late Stephen Girard, straightened, in many places widened, and, in the main, greatly improved. The wharves so constructed project, in many places, into the river, leaving open spaces or docks between the projections, where vessels inclosed are protected from the destructive effects resulting from the action of the floating ice. But while some advantages accrue from the protection thus afforded, they are counter-balanced, whatever care may be taken, by inconveniences of a serious character in a hygienic point of view; for these recesses easily become receptacles of filth, and the wharves generally being elevated above the highest tides, it follows that, at low water-mark, their sides, and the half-dried surface of the docks, are exposed to the vertical rays of the sun, and become thereby the source of offensive, and at times injurious effluvia."

On the subject of interments in the city limits in former times and at suburban spots, of late years, we read as follows:—

"For a long while after the settlement of Philadelphia, the practice of city interments was exclusively followed; the grave yards used for that purpose being usually situated around their respective churches, sometimes in detached spots. In progress of time, the accumulation of dead remains has become considerable in many of the places of burial; in some of which it has been thought necessary to place stratum on stratum of earth, so as to make room for additional supplies of bodies. During the last twenty or thirty years, some cemeteries have been converted into open squares or promenades; others have been partially abandoned; while several establishments, of greater or less extent—some of them of considerable beauty—have been made at various distances around the city."

Six large open squares, five of which are laid out in walks and planted with forest and ornamental trees, and one of these embellished by a fountain, give space for ventilation and furnish

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promenades for health and recreation. The sixth, once known as *Centre Square*, and originally the largest of all, has been spoiled by being cut up into four divisions, which now go under the name of Penn Square.

The whole history of Philadelphia is comprised within a period of one hundred and seventy-three years, viz: between 1682 and 1855. This fact mentioned by the author, suggests our making the remark, that an estimable citizen and friend of his, is now in his ninety-sixth year, and consequently if at the birth of this gentleman his grandsire had attained the age of eighty years, the latter could not have been born on this side of the Atlantic. How rapidly can we run over the short list of the successive generations of natives, from the first born, after the landing of William Penn, down to the present time! The great grandson of one of the first settlers, whose name is given in the work before us, is now in the prime of life, thus making but the third step in the line of Pennsylvanian or American nativity.

The city plot was once partially traversed by small streams, the chief of which, Dock Creek, has its bed now occupied by Dock street and the culvert underneath. This street is one of the very few whose direction is not in a straight line. The creek ran from a spot now represented by that part of Third near Walnut street, and emptied into the Delaware at Front street, a little south of Spruce. The entire space represented by Dock street, and that extending from the latter to Spruce, was, in early times, a miry swamp, traversed by the sluggish Dock creek. This latter, after a while, with the increase of houses in the neighborhood, was made the receptacle of the refuse water and other matters from the several tanneries, and of the offals from the gutters and other sources, and, as a consequence, it became highly offensive by its congregated odors, and, still more, a source of disease. At an early period, the creek was arched over in the neighborhood of Third and Walnut streets; "and, in 1784, the arch was continued, principally through the active efforts of the late Doctor Rush, as far down as Spruce street, and the surface converted to its present use. For many years subsequently the arch and drawbridge [at the mouth of the creek] existed as heretofore, and were made use of. But, finally, the latter was removed, while the arch itself was filled up effectually, excepting

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always, an arched culvert under the pavement, through which the water of the creek and the contents of several sewers are discharged into the river."

Pools and ponds were met with in different directions; some of them of natural formation, others made by excavations for procuring clay for brick making.

"Besides these sources of morbific exhalations, there were others, both beyond the limits of the city and within its very precincts. A small stream of water, called *Pegg's Run*, passes through a portion of the Northern Liberties and Spring Garden, which, until a few years ago, was left open and unimproved. The bottom of the stream was miry, and, at low tide and in hot and droughty weather, was often destitute of sufficient water to carry off its contents. Receiving the offals of many slaughter-houses, tanyards, glue, starch, dressed skin, and soap manufactories adjoining it, as well as the contents of two culverts, of a large number of privies, and of the gutters of the numerous populous streets and alleys it crosses, it became highly offensive, and the source of noxious exhalations. This stream, which plays a conspicuous part in the history of one of the epidemics, and was correctly pronounced *the greatest nuisance in Philadelphia*, attracted finally the attention of the public and council, and has since been culverted.*

"Between the city and Kensington, the surface was long covered with stagnant water and dams; while, beyond the village, was banked land of a large extent.† In regard to these, some improvements have been made; but, in many parts, the bed is still covered at high tide, and remains muddy and marshy when the water recedes. So late as 1797, Dr. Pascalis writes: 'In the Northern Liberties and the district of Southwark, there are many vacancies on the banks of the river. Owing to the periodical floods, these form large miry grounds which are never dry, but covered either with thick beds of filth from the adjoining streets or habitations, or with rubbish, old timber, &c.' "‡

In addition to the sources of disease already enumerated, the author specifies the bad construction of privies. He then points out, as great improvements in the sanitary condition of the city, the general paving of the streets, and the abundant supply of good water. Little was done, however, until of late years, to prevent the wharves and adjoining streets from becoming frequent and prolific sources of disease. In reference to the improvements in these respects the author remarks: "All this has been the subject of observation among us, and no one has failed to perceive, that, by these various causes and the gradual spread of

* Jackson, Fever of 1820, p. 47, and Appendix.
† Barnwell, 368. ‡ Fever of 1797, pp. 94, 95.

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improvement, malarial fevers have been cleared beyond the limits of the city, north, south and west, and the sources of noxious effluvia on the east [or Delaware] front greatly lessened."

But, although, much has been done, much yet remains undone. Morbid influences still exist, and while always more or less operative, they may, at a time when least expected, become fearfully so.

"They depend on the natural, uneven, and irregular condition of the city plot; on the vicinage of the river side; the peculiar quality, natural and artificial, of the soil, in many parts at least of its surface; the compact construction of the houses; and the narrowness, imperfect ventilation, and filthiness of the streets in certain sections of the city. They arise also from the numerous courts and alleys, many of which are closed at one end, unprovided with a sufficiency of water, imperfectly drained, often unpaved, to say nothing of the piggeries and other nuisances they contain; the denseness and squalid character of the population of these localities; the defective mode of construction, and the physical peculiarities of wharves, built of perishable timber, and filled up with animal and vegetable remains and rubbish of various kinds; as well as from the condition of the docks, and the proximity of the shipping. Objectionable localities—though more numerous, perhaps, formerly than they are at present—may be found in almost every district, even in the very heart of the city, but abound more in some portions of it than others."

The *climate* of Philadelphia, is truly described by the author to be, like that of the surrounding country, one of extremes: "the cold of winter as well as the heat of summer, being almost invariably considerable, and at times, of very great intensity." After speaking of the general character of each month of the year and of the seasons in succession, he arrives at the following conclusions: "That, notwithstanding the extreme heat we suffer during the summer, coldness is the predominant feature of our climate, as there are not, in all the year, more than four months—one third of the time—in which the weather is agreeable without a fire."

"As regards the range of atmospheric heat observed among us, we may safely affirm, that it rarely happens that more than twenty or thirty days present themselves in summer or winter in which the mercury in Farenheit's thermometer attains a height of more than 80° in the former, or falls below 30° in the latter season.* From a review of the results of observations made during a long succession of years—from 1758 to 1848 inclusive—it will be found that the annual averages varied from 48° (1836) to 56° (1819);† giving a mean temperature throughout the

* Rush, 81.

† Summary of College of Phys., i. 340, ii. 361; Hewson, Am. Phil. Tr., vi. 395–8; Forry, Climate of United States, p. 10.

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year, for the whole series, of 53°—this being the temperature of the deepest well-water."

The extremes of temperature show themselves, by the thermometer; rising in the greatest heats of summer, during a succession of days to 90° and 96° F., and sometimes to 100° F.; "while in the winter months, it descends often as low as zero, and even, at times, several degrees (varying from 3 to 7) below this point." The more usual elevation of the mercury, however, in the hottest period of summer is to 85° or 86° F., and the greatest descent in the coldest weather is seldom less than 5° below zero. The difference between the extremes of temperature in the summer and winter months, may be rated at 80° F.

"It will be found, on examining the whole number of observations from 1758 to 1854, that of the twelve months, the one which, by its mean amount of heat, expresses the nearest equivalent to the mean annual temperature, is October; a result corresponding to that pointed out by Humboldt in reference to modified climates generally. The months which exceed the annual mean are May, June, July, August and September; while those that fall below are January, February, March, April, November, and December."

The temperature of Philadelphia is little inferior in mean results, and superior as to extremes to that of the coast of South America, the West Indies and even the coast of Africa. "In a word, while our winters are almost Siberian in character, our summers are, as already stated, truly tropical, and capable, therefore, when aided by the conditions of locality already mentioned, and by other morbific agencies presently to be adverted to, of giving rise to disorders peculiar to hot climates."

"The barometer exhibits a mean elevation of about 30°; the variations being very inconsiderable in the greatest changes of weather."

The average yearly quantity of rain during a period of 44 years, was 38 inches. According to a series of observations on this point, by Dr. John Conrad, made during a period of 25 years, the annual average was 43·76: the spring and summer representing the months of April, May, June, July and August are often the wettest in the year. From the records of the rain guage, kept at the Health Office, in a central part of the city, from March 1820 to February 1827 inclusive, the three months

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of winter averaged 8·15; spring, 8·29; summer, 9·54; and autumn, 10·54.

As regards serenity of sky, Philadelphia will compare advantageously with cities which we are accustomed to speak of, as remarkable in this respect. "Thus, while clear or partially clear days constitute more than two-thirds of the whole number throughout the year, at Naples they do not exceed the one-fifth or one-fourth of the whole. The mean number of rainy days at Rome and Florence, is 114; at Sienna, 104."

The dew point in Philadelphia, averaged, during five years, or from 1844 to 1848, both inclusive, 41°.51, the variations in different years were from 29° to 62°, 25° to 62°, 21° to 65°, 24° to 64°, 25° to 67°, the dew point being much higher in the warm than in the cold months. "It usually commences to rise about March and April; continues to rise until it attains its maximum in July and August, and then again descends."

The author next speaks of the population of Philadelphia, and its progressive increase from 1683, when it was only 504. At the beginning of the next century (1700), it was 4,417, and in 150 years after, or in 1850 it was 408,862, including the neighboring towns and villages in the county. A table is given of the progressive increase of population in many of the intermediate years. The proportion of the inhabitants of African descent to that of the whites in 1850 was 1 to 20·69. In the city proper the actual numbers of the colored race was 10·736 or 1 in 10·36, while in the county they numbered 19·761.

After claiming for Philadelphia, on good grounds, the character of healthfulness, compared with other cities of equal size, the author points out the yet existing and common causes of diseases, and contrasts their more potential operation in former times with their diminished force in our own day. Remittent and intermittent fevers once common in nearly all parts of the city are now limited to the suburbs. "In former days, when the city was of limited extent—with few improvements—with buildings scattered about, and leaving open and unimproved spaces between—with a marshy stream running through the greatest part of it—with ponds, natural and artificial, spotted over the plot in various directions, and with unpaved streets—fever was of common occurrence, and epidemics not unfrequent. At present, malarial

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fevers are unknown in the city proper, as well as in the compactly built and well drained portions of the suburban districts."

After a detailed account of the Medical Topography of Philadelphia, a connected abstract of which we have endeavored to place before our readers, the author gives a historical sketch of the successive epidemics of yellow fever, as they appeared in the years 1699, 1741, 1747, 1762, 1793, 1794, 1797, 1798, 1799, 1802, 1803, 1805, 1820 and 1853. Gladly would we follow him in this retrospect, did our space permit. The narrative of the earlier attacks of the pestilence, necessarily brief from the scantiness of materials, acquires more fulness, as these increase, down to our own time. It is, throughout, plain and unpretending, without the declamation, rhetorical flourishes, or attempts at pathetic description, in which a less careful and less philosphical writercould hardly refrain from, at least occasionally, indulging. It is, notwithstanding, replete with interest, even to the general reader, both by the importance of the theme and the natural account of the scenes to which the disease gave rise, as described by contemporary writers and observers.

The first epidemic, in 1699, was attended with a mortality fully equal to or exceeding in its proportions any that has occurred in subsequent times. The population at this date, must have been considerably less than 4,000 inhabitants. Story, one of the few who have left any description of the fever, "states that the mortality amounted to six, seven and eight a day, for several weeks, and that ten were buried in one day. The entire lack of medical testimony respecting the disease, is, in part, supplied by the letters of Isaac Norris, great-grandfather of Dr. W. Norris, Wm. Monington, and extracts from the Journal of Thomas Story, quoted above. Mr. Norris describes the fever as the Barbadoes distemper. The symptoms described by this gentleman and by Mr. Monington leave the inference in the mind of Dr. La Roche, that the fever differed in nothing from that which, under the name of yellow fever, has subsequently prevailed in Philadelphia. "The epidemic of 1699 was preceded by one of influenza.* Like those that have occurred subsequently, it limited its ravages almost exclusively within the precincts of the infant city, and

* Webster, i. p. 212.

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extended but a little, if at all, into the country."* No where does the author find a suggestion that any vessels had arrived from the West Indies with the disease on board, or in a condition calculated to infect the city. At a later day, Gough and Proud threw out the idea that it was the offspring of foreign importation; and Pemberton, appealing to the reminiscences of his father, who was then but fifteen years of age, asserts, "that it was imported in a ship (or other vessel) from the Island of Barbadoes, whose cargo consisted of cotton in bags, which were landed at a wharf between Market street and the drawbridge, and there stored for sale."

In reference to the appearance of the yellow fever in other parts of the world, during this century, the author tells us, on authorities cited, that it existed in Barbadoes in 1647, in St. Christopher in 1648, and in Jamaica in 1671, at Leogane (St. Domingo) in 1691, in Pernambuco (Brazil) from 1687 to 1694, in Martinique, in 1690, in the city of the Cape St. Domingo in 1696, and at Leogane in 1698. Barbadoes was afflicted by it in 1691, 1694 and 1696. "An epidemic of fever, upon the true yellow fever nature of which there can be no doubt, prevailed at Rochefford, in France, during the autumn of the same year, 1694."

"In the same year that the yellow fever made its appearance for the first time, in Philadelphia, it prevailed to a considerable extent in Charleston, where, as we are told by Hewatt,† it carried off a considerable number of people."

A long interval of exemption from yellow fever, extending through a period of forty-two years, or from 1699 to 1741, was enjoyed by Phildelaphia. "The records of the period show that it prevailed, with more or less severity, at Martinique in 1703 and 1706, at Cape François, now Cape Haytien, in 1705, 1723, 1733, 1734, 1739, and 1740, at Leogane in 1732; at Carthagena in 1729 and 1730, at Barbadoes in 1723 and 1733. At Charleston it prevailed in 1703, at which time the inhabitants were apprehensive of an invasion of the French and Spaniards. It broke out again with great violence in 1728." "It again appeared in 1733, 1739 and 1740."

* Story, 223.

† An Historical Account of the Rise and Progress of the Colonies of South Carolina and Georgia. i. p. 142.

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In Philadelphia, the fever of 1741 broke out with violence, and continued until it was ended in its progress by the coming on of cold weather. The disease prevailed in Jamaica and other West India islands, during this year. The information, as we learn from the author, respecting the epidemic of 1741 is still more scanty than that of 1699. He has gleaned, however, many interesting particulars, for which we refer to the work itself, tending to show its identity with the fever prevailing, at the same time, in the West Indies, New York and Virginia.

The disease in Philadelphia was generally attributed to foreign origin, but there was then, as has often occurred since, in the history of epidemic visitations of yellow fever, here and elsewhere, no little discrepancy of belief as to the place of origin and the manner of its introduction.

The occurrence of yellow fever in 1744 in Philadelphia when it prevailed to a great extent in New York, is doubted by the author. It is not so, however, with the outbreak of the disease in 1747, of which we have notices by different persons named, and among them Dr. Franklin. "As on other occasions, the fever broke out during the hottest part of summer. The disease was confined within the limits of the southern part of the city, below the drawbridge, and at lodgings for sailors and in the neighborhood of the dock which was then uncoverod." A belief in the contagiousness of the fever, and of its having been imported, was very general.

Philadelphia was slightly visited by the yellow fever in 1760, and in a more decided manner, and with more fatal results in 1762. "The disease made its appearance at the usual period of the year; it was preceded, as all epidemics of the kind usually are, by hot weather, was circumscribed within such localities as it has been ever found to prefer, and was arrested by the accession of winter." A specification of its actual range and limits is given in a subsequent passage by the author. All that we possess of clinical observations on this fever, is found in the notebook of Dr. Rush, and a short sketch communicated to the College of Physicians, by Dr. Redman. As in former instances, we find this fever attributed to a foreign source. "The time had not yet come, when it could be admitted to originate from the baneful action of foul local exhalations. But as usual, opinion

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differed as to the mode of its introduction, and the place whence it came."

After a long interval of thirty-one years, the yellow fever broke out in Philadelphia in 1793, with an intensity and a resulting mortality greater than at any former or (except 1798) subsequent year. Its history, unlike that of preceding epidemics in this city, is not required to be made out by circumstantial evidence, but comes from numerous, well written and detailed descriptions, by those who saw what they described, and who bore a more or less conspicuous part, in their professional and philanthropic efforts, for the mitigation and cure of the disease. Dr. La Roche has turned his materials to good account in his succinct yet clear narrative of the leading incidents of this memorable pestilence. He describes, after Dr. Rush, the state of the weather during the preceding part of the year, down to the date of the appearance of the disease about the middle of August. The earlier notices of its attacks were treated by the people, generally, with incredulity mixed with anger. The disease made its appearance about the middle of August. Its geographical range is given, and the remark made at the same time, "that during the whole course of the epidemic, the greater number of the cases occurred in the vicinity of the Delaware river; that there, also, as in close alleys and small streets, the disease assumed its most aggravated form, and proved most unusually fatal; and that its severity lessened in its progress westwards and towards the districts."

We do not pretend, either by extracts or condensed narrative, to convey to our readers a connected view of the progress of the fever, and the concomitant gloom, despondency and despair, with instances of heartless selfishness, redeemed in others by traits of rare devotion and philanthropy—as described in the volume before us. That which, by the pen of the author, has been given with brevity and condensation cannot well be abridged by his reviewer; and hence, we must refer the reader to the fifteen full pages of the volume itself, for the desired information on this eventful theme. We would, at the same time, extend the reference beyond the medical pale to intelligent readers of history, sure as we are, that in the incidents of the present one, thus simply and plainly told they will find abundant material both to interest their feelings and to add to their stock of general

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knowledge. The mortality from the yellow fever epidemic of 1793 has been variously estimated as from 1 in 10 to 1 in 12·13 of the whole population, taking the two estimates of the latter at 40,000 and 50,000. The entire number of deaths was a little over 4,000, of which, the largest number in the four months of its continuance was in October, being 1976. In reference to the proportionate mortality of those who were sufferers from the disease, and to the entire number who were attacked, the author remarks: "At a future time, this subject will be resumed, when reasons will be given for believing that the proportion was about 1 to 3, and that the number attacked amounted to near 11,000."

The mortality great as it appears by the above calculation is rendered still greater, when we bear in mind, that, at the time of the enumeration 2,728 houses were closed, and not, less than 12,297 of the inhabitants, (Cary says 17,000,) had fled the city and sought refuge in the purer air of the country, or been removed there by the public authorities.

When it is known that, with few exceptions, the medical men remained at their posts, in the active and zealous performance of their duties, we can well understand how it was, that amid continued exposures and the interruptions in their hours of sleep and meals, and the slightly remitting strain of mind and body, so many of them should have fallen victims to the pestilence. "In the space of five or six weeks, exclusive of medical students, not less than ten physicians were swept away by the epidemic. Scarcely one of those that survived or remained in the city escaped sickness." At one time, if we except the French practitioners, then residing in the city, there were but three physicians who were able to do duty out of their houses.

The year 1793 was a memorable one in the medical history of our yellow fever, as that in which, for the first time, men of mark and authority avowed their dissent from the belief of its being an imported disease. Among these gentlemen we find the names of Drs. Rush, Redman, Foulke, Leib and Hutchinson. The doctrine of contagion, previously received, was disputed at this time. "From this moment may be dated the origin of the interminable dispute about contagion and non-contagion, which

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has continued ever since to occupy the attention of the medical profession in this and other countries."

Dr. La Roche does not enter thus early into an examination of this mooted point; but the importance which he attaches to its solution is evinced in the fact of his devoting nearly four hundred pages to it in the second volume of the present work.

Next comes a brief notice of the yellow fever of 1794, and a more particular one of that of 1797, which latter was attended with considerable mortality. "The condition of the localities where the disease appeared and was mostly prevalent, differed in nothing from what it was on former visitations. The Academy of Medicine, in a letter to the governor, called attention to the putrid exhalations from the gutters, streets, ponds and marshy grounds in the neighborhood of the city, and traced to these sources most of the cases which occurred in the city and at Kensington Bridge.

As on a former occasion, medical men suffered largely from this fever. Out of 23 or 24, the entire number in attendance on the sick with yellow fever, nine fell victims to the disease.

The fever of 1797 was, as before, attributed to importation. This opinion was formally advanced by the College of Physicians, and the origin of the fever was traced, according to this authority, to two vessels, the one from Havana, the other from Port au Prince. On the other hand, thirteen physicians, "in two letters to the Governor of the State, the one in their private capacity, the other as members of the 'Academy of Medicine,' discarded the idea of importation, and advocated decidedly the local origin of the disease, referring it to putrid exhalations, and to the fact that two ships that had arrived from Marseilles and Hamburgh, had, while discharging their cargoes, infected the vicinity of the wharves, the former at the foot of Pine street and the other at Kensington. They enumerated all the common sources of malignant fevers, and recommended removal from the city as the most effectual method of guarding against a renewal of the disease."

Still more formidable by its malignity and the mortality to which it gave rise, was the yellow fever of 1798. In these respects it went beyond any preceding epidemic visitation. The mean temperature of the three summer months—June, July and

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August—was, as we learn from the volume before us, not lower at mid-day than 79° 94′ F., an elevation greater by several degrees than that observed in other yellow fever seasons, but below that of 1793, when it rose to 81° 37′ F. During the season the thermometer rose forty-one times after mid-day (3 P. M.) to above 80° F.

"The localities where the fever made its appearance and prevailed, were in no better condition, in point of cleanliness, than those that had been the theatre of its ravages at former periods. The sinks and sewers, were as heretofore, filled with putrefying materials and emitted the same effluvia." Here follows an enumeration of the chief of these nuisances.

The disease began this year early in August—"Assuming rapidly a fearful character of malignity, and spreading far and wide, it prevailed from that period through the rest of the summer and during the whole of autumn." The month of July had been marked by cholera morbus, especially among children, and by dysentery and several cases of bilious fever of a highly malignant grade.

Resembling in its range former epidemics, the fever was principally met with along the river side and in the adjoining streets. It began about Spruce and Walnut streets, and the wharves; but after a short time, and before the close of August it spread nearly throughout the part of the then city, as far as the jail, situated at the corner of Sixth and Walnut streets, and even into the Pennsylvania Hospital, in Pine, between Eighth and Ninth Streets.

The proportionate mortality among those attacked by the disease, and who continued to be exposed to the infection, was greater than in 1793. The population of Philadelphia was estimated in 1798, to be 60,000, but such was the alarm excited by the appearance of the fever, and such the urgent advice of the College of Physicians, the Board of Health and the Academy of Medicine, that according to an accredited computation, three-fourths to five-sixths of the inhabitants fled the city to the neighboring small towns and adjoining country. By this means a comparatively small number were exposed to the infection and to share the loss occasioned by it. Thus while, as we learn from the author, the deaths in proportion to the entire population were

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1 to 16.48, they were, in fact, in a much greater proportion to the actual and vastly diminished population caused by the emigration just noticed; as but 20,000 inhabitants were left to bear the brunt of the attack of the pestilence, and their loss by deaths would be one out of every five or six persons. The mortality by death among those attacked by the disease was excessive. The latter numbered 4.71, including 898 received from the City Hospital: the former 8,045, making a proportion of deaths to cases as 1 to about 1.27.

The explanation of this fearful mortality is found by the author in the great diffusion of the poison, and also in the condition of the inhabitants, chiefly the poorer classes, who were left in the city, and who resided in confined, ill-ventilated and filthy courts and alleys, and of course exposed in an unusual manner to the influence of morbific causes. The sufferings of the poor and destitute on that occasion, aggravated as they were by the dread of contagion and the general panic, are briefly but well described in the work before us.

The following quotation furnishes matter for melancholy reflection, when we compare the positive experience and enlarged humanity of the people in the towns and rural districts near and around Philadelphia in 1798, with the theoretical notions and their cruel fruits by which the inhabitants of Norfolk and Portsmouth, fleeing from the ravages of pestilence, were driven back and refused shelter and even a resting place by the people of their own State, in this present year of our Lord, 1855.

Dr. La Roche says, "Experience had already shown that no fear of contagious communication was to be apprehended from the effect of emigration." From this period may be dated the revolution in Dr. Rush's mind relative to contagion, which he no longer believed, and which he took occasion a few years afterwards frankly to avow.

The fever of 1799 penetrated almost every part of the city east of Seventh Street, beyond which very few cases occurred; it chiefly "affected the wharves between Pine and Lombard Streets near the southern boundaries of the city, and the District of Southwark, in the vicinity of the Swedes Church, (*Currie*, p. 5.) In this season, the village of Kensington, which, in former epidemics had usually suffered, was spared." Notwith-

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standing the wide spread of the disease, the deaths barely exceeded a thousand.

The yellow fever showed itself only in a sporadic form in Philadelphia in the years 1800 and 1801. Other cities of the Union were less fortunate. "In 1800, the fever prevailed extensively in New York, Providence, R. I., Norfolk, Baltimore and Charleston; and every medical reader must recollect the devastation produced by it in Cadiz, Seville and other cities of Spain; and in 1801, it broke out in several of the cities of New England, and spread so generally in New York, as to produce a considerable desertion of the city."

The yellow fever was epidemic in 1802 and 1803 in Philadelphia. In the first of these years, it broke out on the 15th of July, "near the corner of Front and Vine streets. On the 2d of August, it extended to other parts of the city, particularly Front and Water streets, near the Drawbridge, as well as to Chestnut street, near the wharf." "The fever declined after a black frost which occurred on the 23d of October, and ceased entirely in November."

The principal field of the fever of 1803 extended from Market to Walnut streets, and from the east side of Front to the Delaware. There the disease assumed a most malignant character. It became milder as it exhibited itself westwardly. "The whole of the city and liberties, except that portion which lies between Second street and the Delaware, remained as free from disease as it has ever been known in the most healthy seasons."

This is a noticeable year in the literature of our subject, as one "in which the doctrine of local origin and non-contagion appears to have made some progress." The Board of Health "in issuing a declaration of the existence of the disease, affirmed that it was not contagious, and this opinion was entertained by Drs. Rush and Caldwell, and other leading physicians. By others, however, and the public at large, the old and contrary doctrine was maintained with as much pertinacity as ever."

The appearance of the yellow fever in 1805 in this city, was preceded by its breaking out in 1804, "at Leghorn, and in not less than twenty-five cities or towns of Spain—Cadiz, Ecija, Carthagena, Malaga, Alicant, Gibraltar, &c." It prevailed, also, at this time to a considerable extent in Charleston and New

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York. In Philadelphia, its attack in 1805 was contemporaneous with that in New York, New Haven and Providence. The author draws freely in his account of the epidemic from the well written history of the disease by Dr. Caldwell.

In the notice, by the author, of the fever of 1820, he makes free use of the elaborate papers on the subject, written by Professor Samuel Jackson, which are the result of the formal observations at the time and the subsequent readings of the latter. The whole scope of the experience and study of both the gentlemen just named, is adverse to a belief in the importation or foreign origin, and in the contagion of yellow fever.

A long period of exemption from this disease was enjoyed after 1820; and it was not until 1853, or after an interval of thirty-three years that Philadelphia was somewhat frightened from its propriety by some unpleasant demonstrations on the part of its old enemy. The number attacked was only 170, of whom 129 died, making the mortality 79 per cent. There is a good reason for believing, with Dr. Jewell, that not all the cases, particularly those of a milder character, were reported. The period from the date of the first announcement of cases, July 19th to October 7th, when the last case was reported, was two months and nineteen days.

After the statements made by Dr. Jewell, of the home sources of febrile disease, in the outlet of the sewer into the dock at South street ferry, "belching forth continually putrid masses of animal and vegetable filth," and a most foul wharf at the upper side of South street, "numerous damp and confined cellars, subject to an occasional overflow by the ebbing and flowing of the tide-water of the Delaware," and other minor causes of the same character; added to the state of the gutters, alleys, &c., in other places where the disease appears to have originated, it is difficult to give credit to the assumption of foreign origin, in its being imported in the barque Mandarin, from Cienfuegos, Cuba, which discharged her cargo at a spot in the neighborhood at which the fever first appeared. No adequate evidence was furnished of the disease exhibiting a contagious character. Dr. Jewell gives no countenance to such a doctrine, although he believes in the exotic origin of the fever, in the form of a poison generated in the imber planks of the hold of the Mandarin, which was afterwards

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diffused through the air at the wharf and neighborhood, and acquired increased strength by meeting with other elements of decomposition; the whole acted on by high heat and moisture.

The picture of Philadelphia in its climate, situation and dark spots, and the endemic visitations of yellow fever, so ably depicted by the author of the present work in the Preliminary Observations, and of which, on account of its importance and subsequent applications, we have given an outline sketch, will represent in the main, and, indeed, in essential particulars, the medical topography of other places in which the disease has prevailed. These are, high temperature of the summer months, often continued heat, approximating the climate to a tropical one, defective sewerage, and accumulations of vegetable and animal matter acted on, and, in a degree, volatilized by heat and moisture, narrow and filthy streets, confined, damp and badly ventilated, and sometimes underground habitations. These are features common to nearly all, if not all, the places which have at different times been ravaged by the disease. To repeat a description of them was unnecessary, and would have swelled the work to unreasonable dimensions. Accordingly, the author proceeds to a methodical and descriptive account of the several elements or parts which make up yellow fever; beginning with a general description of the several species, and continuing with a particular one of the symptoms, separately examined, through the range of inflammatory and congestive species, with their several subdivisions, and also the premonitions and modes of invasion. Next, we have the symptoms deduced from the circulating system, by the pulse, and hemorrhages, external and internal; from the state of the skin, as measured by its temperature, secretions, odor, sensibility and color, (including jaundice,) eruptions of various kinds, abscesses, anthrax and gangrene; from the digestive apparatus, as indicated by nausea and vomiting, and the alvine evacuations, and the fearful black vomit, also, by the tongue and thirst; from the respiration, and from pain; from the countenance; from the urine; from restlessness and jactitation; and wakefulness and muscular power. The symptomatology is concluded by an analysis of the value of the symptoms furnished by the nervous system, viz., delirium, convulsions and spasms, carpologia, subsultus tendinum and tetanic symptoms. Then follows a view

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of the pathological anatomy of yellow fever, and of the connection between its anatomical characters and the symptoms. Critical days and critical efforts, and the type and complications of yellow fever receive, severally, a chapter. Duration, convalescence and relapse make up another. The several subjects just enumerated constitute so many themes for description and comparative investigations, which are conducted with the care, attention to accuracy and detail observable in all parts of the work. They occupy twenty chapters and 350 pages of the first volume.

The two chapters which open the volume are, the first on the synonymes, and the altitudinal and geographical ranges, and the second, on the classification of yellow fever. The range of the yellow fever is circumscribed within certain heights above the level of the ocean, and degrees of latitude north and south of the equator. Major Tulloch, quoted by the author, asserts that the disease has never been known in any climate to extend beyond the height of 2500 feet. Comparative exemption is enjoyed at less elevation in different spots in the West Indies. In Mexico, on the other hand, as Humboldt assures us, the farm of the Encero, at a height of 3,248 feet, forms the upper limit of the range of yellow fever, (the *vomito*;) and this disease scarcely ever passes beyond the ridge of mountains that separate La Guayra from the valley of the Caraccas. "In this country, [the United States,] the yellow fever is never known to prevail in very high situations, whatever may be the condition of the localities. But at what point it ceases to appear or prevail is still an unsettled question." To the explanation of the cause of the limitation of the range of the disease, we assent, with the exception of the concluding lines, viz., that "the liability of the yellow fever to be generated at a high elevation above the level of the sea, depends in part on the greater elasticity and purity of the air, on a diminution of atmospheric pressure, and on a more thorough ventilation. But the main cause is the absence there of the atmospheric heat, which, as we have seen, is indispensably necessary for the elaboration of the morbific agent to which the disease is due. For the same reason, in part, though not exclusively, its geographical limits are restricted to within certain limits, in a northern direction; while

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a a southern, the same effects are produced, as it would seem by an excess of heat and a variety of influences of a meteorological and telluric nature." The latter part of this sentence is obscure and contradictory. Taking the equinoctial as the dividing line, yellow fever is met with both to the north and to the south of this line, but it ceases to prevail at high latitudes in either direction, as we leave the equator and approach the poles, and for the same reason, viz., diminution of climatic or atmospheric temperature. To assume high heat as a cause of the limitation of range in a southern direction, by which the author means southern to us and nearer the equator, is in direct contradiction with the opinion incidentally expressed just before, viz., that high atmospheric heat is "indispensably necessary for the elaboration of the morbific agent to which the disease is due," and more formally enunciated at the conclusion of the chapter, when he says, "The yellow fever being a disease of hot weather, requiring a high average temperature during the summer months, and manifesting itself in no climate where the temperature is below that average, it is governed, in a great measure, in regard to its outbreak, duration and termination, by that condition of atmosphere." But, again, what are the limits, in a southern direction, of the fever? It is met with, as the author shows, below the 9th degree of north latitude, or at 8° 56′ on the Pacific.

Speaking of the identity of the yellow fever of Philadelphia, of the symptoms of which he had just before given a minute description, with the disease under the same name which has appeared and been described in other parts of this continent, the West Indies, and in Europe, the author writes, "In all places we discover that the disease is one of a single paroxysm. In all, we notice the characteristic appearance of the eye and countenance; the lull or stadium without fever of the second or third day. In all, we find the peculiar absence of febrile excitement after the subsidence of that stadium; the same gradual slowness of the pulse and depression of cutaneous heat in the after stage; the same coloration of the surface, the same character of the matter ejected from the stomach." An adverse opinion advanced by Dr. Richoux is refuted by the author.

On the subject of premonition, differences are pointed out in the fact that in some instances the fever is announced by hours

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and days of indisposition; in others, it comes on suddenly, and with little, if any, warning. Often, if not generally, the disease attacks in the midst of ordinary health, or is not preceded by perceptible indisposition. A somewhat qualifying view of the matter is given by Dr. Wragg, who had charge of the Roper's Hospital in Charleston, during 1854. From this, it appears that in 225 cases the attacks were sudden; in 92 they came on insidiously; in 32 the patients complained of malaise, &c., for a considerable time, and then gradually became feverish; and in 101 cases there were offered the usual symptoms characterizing the approach of fever. The difference in the premonitory symptoms depends, we are assured, in a great measure, on the mildness or violence of the attack; they being most evident in the former case, and nearly wanting in the latter.

The invasion of yellow fever was, in a large proportion of cases, marked by a chill; but, in this respect, there was no little difference in different years. Of 232 cases observed with reference to this particular point, "104 commenced with it, and 128 without." It may be added, "in some cases the disease is ushered in by giddiness, bearing great analogy to that produced by inebriating liquors." In other instances, it has been known to be ushered in with convulsions, syncope, &c. The attack usually comes on at night or towards morning, a period the coolest of the twenty-four hours, and one in which, according to the observations of Dr. Davy, the temperature of the body is lowest and the pulse commonly slower.

Among the symptoms furnished by the circulatory system, the changes in the blood are carefully investigated by the author; but without any very definite result, in the way of improving the pathology of the disease, or of confirming the somewhat popular idea, that to which the author evidently inclines, of the poison of yellow fever acting on and deteriorating the blood, and through this fluid the tissues and organs generally. The peculiar smell emitted from the serum of the blood drawn from yellow fever patients, and the elevated temperature of this latter fluid, which is some degrees above the common standard, are facts worthy of commemoration. The entire chapter on the morbid appearances of the blood in yellow fever should be carefully read, for its multiplied facts and the suggestions to which they give rise,

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even although, as yet, they fail to lead us to positively definite and satisfactory results.

The pulse in yellow fever is a fruitful theme, and it has received in the work before us a large share of attention. In the first stage of the disease, or in the beginning of the attack, the pulse is often strong, tense and full, and even bounding. In some instances it is "soft or feeble, though more or less full, or weak, depressed and small, and, at times, natural." The pulse is also very frequent, ranging from 80 to 100 in a minute; and again, it has been found to be slow, sluggish or natural: an intermitting or hobbling pulse is a not unfrequent symptom. The general conclusion, however, is that yellow fever is not a disease in which the arterial system is necessarily implicated, and hence, that the pulse, either as an aid to prognosis or a guide to practice, is not reliable. Dr. Pennell, in the epidemic of Rio Janeiro, in 1850, noted, with some care, the action of the heart—its impulse and sounds.

Among the symptoms of yellow fever furnished by the circulatory system, are hemorrhages. "Though not peculiar to that form of febrile diseases, they constitute one of its main characters. They take place in many mild or moderate cases; are absent in but few of the violent, malignant and fatal ones; and issue from a greater variety of parts than is found in most other complaints." The author, under the heads of external and internal, describes each of them with considerable minuteness, after a few remarks on their general character, and their influence on the march and termination of the disease. Among the external hemorrhages, that from the stomach, true hæmatemesis, as distinguished from black vomit, merits notice.

The second of the three chapters given to a consideration of the symptomatology of the skin, treats very fully of jaundice in connection with yellow fever. The odor of the skin, a symptom of some moment, though it has been frequently overlooked, is attributed by the author to that of the blood, which has undergone the poisoning process to a certain extent.

Jaundice, so common in yellow fever as to cause the disease to be designated by this color, is not by any means a constant attendant, since, in a large number of instances, the fever marches to its termination, either in health or death, without

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this symptom having been manifested at all. The entire subject, in its various bearings, is discussed with great fulness; and the strong probability that the peculiar changes in the blood and the subsequent effusion of the serum colored by the colliquation or dissolution of the red globules, are the cause of the jaundice, is maintained on various enumerated and plausible grounds.

Of the symptoms of yellow fever furnished by the digestive organs, black vomit is the most distinctive. It is, in fact, looked upon by many writers, as the great pathognomonic feature of the disease, the presence of which is essentially necessary to enable us to say that we have to deal with yellow fever. This extreme view is properly contested by the author, who shows that coffee ground ejections from the stomach, resembling, and of the same nature as the black vomit, are met with in other fevers and diseases, and that they are also caused by various poisons and the introduction of putrid substances into the circulation. Numerous interesting cases bearing on this point are related in this chapter of the present work. It is equally clear, on the other hand, that in a great many—even of the fatal cases of yellow fever, black vomit does not show itself. It has, indeed, great and melancholy significance; and in a semeiological point of view, its occurrence too generally preludes a fatal termination of the disease.

Worthy of remark, however, is the fact, that, although there may not have been any ejections of the matter called black vomit during life, it is found, in a great majority of cases, in the stomach after death. Dr. Blair, as quoted by the author, remarks, "that black vomit in the stomach is the rule, its absence the exception."

"The black vomit usually makes its appearance at the opening, or about the middle of the second stage of the disease, sometimes at the decline of the first stage; occasionally but rarely during the first or febrile paroxysm." "The most usual period of its appearance is about the fourth or fifth day. In some instances, it occurs earlier, and sometimes later." In the first contingency, on the second day; in the latter, as late as the seventh, eighth, or ninth day, or even much beyond.

Although so often a fatal sign, black vomit is sometimes followed by recovery from the fever. Numerous cases of this

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nature are related in the work before us. On occasions, the immediate effects of the discharge is a great relief to the patient; but for the most part this is illusory and of short duration.

Contrary to what happens in the first stage of the disease, in which retching and vomiting are associated with straining and much effort, the discharge of black vomit is made as if it were spouted out by the action of the stomach alone. The quantity discharged and found in this organ after death, varies of course, in different cases. Dr. Cathrall has known one gallon to be vomited in 24 hours, and Dr. Firth, among other observers quoted, "states, that the fluid is thrown up by pints, quarts and even gallons. In a case mentioned by Dr. Townsend, of New York, the quantity found in the stomach amounted to two quarts. The disparity between the quantity of the black vomit thrown up and that of the fluids swallowed is often noticed by the patients themselves."

The term black is not strictly correct, to designate the matter thrown up from the stomach. "As seen in this, city it is more frequently of a dark brown, bister, chocolate or amber hue. In some instances, the color approaches to a dark slate, or to a muddy claret color. It is of two kinds. The one consists of a number of dark flaky particles, which have been not unaptly compared to butterfly or bees wings, and which assume gradually the appearance, with more or less distinctness, of the grounds of coffee, of soot, or finely powdered charcoal, floating in a quantity more or less considerable, of thin glairy fluid, bearing a slight resemblance to a weak infusion of flaxseed, or green tea. The latter fluid, when filtered, differs slightly in color, being limpid like water, of a deep brandy or rum color, yellowish or light green." "The fluid, when completely formed, though homogeneous in appearance when discharged, separates soon, on standing, into two parts; the one consisting of the flaky or coffee ground matter, already mentioned, and the other of the fluid in which they were held in suspension."

"The other form of the black vomit, is more homogeneous in character, and presents the appearance of dark-colored inspissated mucus, or thin tar, or of a thick mixture of molasses and water. In some instances, the matter vomited, consists of grumous or dark colored blood, fluid or coagulated, without admixture of coffee ground particles, or pale fluid; while in others

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again, the matter described above, is mixed with coagula of more or less pure blood. In some instances, the discharge towards the termination of the disease becomes nearly sanguineous." The dark matter discharged from the bowels, is identical with that of the black vomit; and in fatal cases, it has been found, on dissection, covering portions of the inner surface of the intestines, especially the smaller ones.

Black vomit, usually spoken of as destitute of odor, has, in fact, a manifest character in this respect. The author, after citing the comparisons made by different writers, coincides from his own observations, with the statement of Dr. Hiester: "that it has a fresh, disagreeable, nauseous smell." This fluid, in general, is without the acridity attributed to it. In taste, the black vomit is more frequently acid, and such it is shown to be by reactives.

The question, yet a mooted one, as to the nature and real characters of the black vomit is examined by the author with his customary learning and patient research. He dismisses, as antiquated and untenable, the opinion of its being inspissated or altered bile; and refutes the modern and more accredited belief of its being a morbid secretion from the stomach, to make way for what he avers, and as we cannot but think, to be the true doctrine, viz: that it is the product of hemorrhagic discharge from the blood vessels of the stomach. We wish much that we could introduce his able summary of the arguments in proof of this latter position, that the black vomit "is nothing but blood in a peculiar state of alteration." The characteristic properties of this matter, may, in a great measure, be imitated by the addition of hydrochloric or other acid; and also by mixing the blood of the vena cava with a whitish, acid-smelling liquid, found in the stomach of the same individual, who has died of yellow fever. Direct evidence to the same purport, is furnished by chemical analysis and microscopical examination, in part undertaken at the instance of the author.

Animalculæ of the acarus tribe have been found, by some observers, in the black vomit; but the fact has not been confirmed by the majority of those who have directed their attention to the subject. Different kinds of fungi are evolved from black vomit, under peculiar circumstances.

"The black vomit being recognized to be blood acted upon by

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the acid contents of the stomach, we have no difficulty in perceiving, that much of the difference it presents, in regard to its physical appearance, will depend on the manner in which the blood is effused into the stomach—whether drop by drop or in a stream—and on the degree of acidity of the gastric secretion, or the quantity of serous fluid it meets in this organ."

The next chapter (XIV) treats of the Tongue, Throat, Respiration and Pain: it is replete with minute specifications of the different symptoms furnished from these sources. The remarks on the tongue are particularly full. Pain, as an almost invariable attendant on the yellow fever, demands, and has received, due attention and notice. That in the head is an early and nearly constant symptom of the disease. "It has been observed, in a greater or less degree, in all epidemics on record, and has attracted the notice of medical inquirers in all climates, and no where more than in this city, in all the sickly seasons of which it has played a conspicuous part in the catalogue of symptoms." Perhaps more frequent and not less severe than headache is the pain in the lumbar regions, in those attacked with yellow fever. The gastric and other abdominal organs, are also the seat of severe suffering in this disease.

Suppression of urine is always of bad augury in yellow fever, and in a large majority cases, in which it occurs, portends a fatal result. "It takes place sometimes, at an early period or during the second stage of the disease. Generally, however, it comes on about the accession of the third."

Among the symptoms drawn from the muscular system, the most surprising, and that which is apt to deceive a person not familiar with the disease, is the retention, or perhaps still oftener, the restoration of muscular strength, so that the patient is able to sit up, walk about the room, or even go down stairs, or into the street as if he were in his usual health. These are what Dr. Caldwell terms, appropriately enough, walking cases. This morbid strength has been retained until within a few minutes of dissolution—a result which it almost always indicates.

The Pathological Anatomy of yellow fever is detailed with great care by the author; but we cannot here venture on even a brief notice of his labors in this way, beyond a few remarks on the appearance of the stomach, as observed after death. "This organ

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of all others of the body, may justly be regarded as the one most generally and seriously implicated in the yellow fever, and in which the marks of disease are most frequently discovered after death." These marks are described with great minuteness, and their value is tested by the aid of the scalpel and microscope, in the present work, to which the reader must turn for the desired information.

The changes in the appearance and texture of the liver, are dwelt on with some emphasis. Its peculiar color—"light yellow nankeen, fresh butter, straw, coffee and milk, gum yellow, buff, gamboge, light orange, or pistachio"—known and described over and over again, did not fix the attention of medical men, so pointedly as it has done by the announcement and publication of the observations on the subject made by Louis, in the epidemic of Gibraltar, in 1828. Dr. La Roche tells us, as we had learned from different quarters, that this coloration of the liver is far from being a thing of constant occurrence. It has been attributed by Budd and others to fat, far short, however, of the extreme deposit of this substance met with in phthisis.

The chapter on the correspondence between anatomical lesions and symptoms, does not establish any thing conclusive. "In the yellow fever, more perhaps than in any other disease, it is difficult, if not impossible, to connect, as cause and effect, the symptoms observed during life with evidences of textural changes, discovered after death." This position is sustained by passing in review the state of the several organs or apparatuses, whose functions are supposed to be more especially disturbed in the disease.

Critical Days and Critical Efforts constitute the subject of another chapter, in which the author inclines to the affirmative side of the question, and adduces facts to show the benefits following epistaxes, and increased discharges of urine and sweat, which seem to have been critical, as being followed by a marked abatement of disease and beginning return to health.

The type of yellow fever is shown to be, first a continued one, constituting a paroxysm of seventy hours duration, and ending with calm and complete apyrexia, which, sometimes, is the harbinger of of complete recovery. In other cases, after a lull of twelve to thirty-six hours—sometimes a day or two—it is "followed by

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the more alarming and malignant symptoms which, after some time, gradually abate, and terminate in health; or, as more frequently occurs, assume a more serious aspect, and lead to a fatal termination. This state of remission—the *stadium* of Lining, and the *metaptosis* of Moseley (during which the pulse returns to its natural standard, the tongue, skin, and other surfaces lose their morbid appearances, and most of the other symptoms disappear completely, or in great part,) occurs at the period mentioned with greater or less abruptness. It is never or very seldom followed by a recurrence of febrile excitement." The remission of the fever, assumed to be almost a constant feature, is spoken of by the author, who cites the affirmative opinion of many writers, without himself being of this belief. "So far from it, experience shows that in the large majority of instances—especially those of a severe character, the fever takes on, at once, and preserves the continued type; or if it presents occasional risings and fallings, these modifications are not sufficiently well marked to deserve the appellation of remissions, and still less of intermissions."

We must pass over, with a mere mention of their titles, the successive chapters on Complications of yellow fever, its Duration and in Convalescence and Relapse, nor can we dwell, either by synopsis or extracts, on Prognosis, full of interest and instruction though it be, owing to want of room for the purpose. The same remark will apply to Incubation and the Mortality of Yellow Fever in Philadelphia, the Pathology of the disease and its Diagnosis. Amendment might be made in the order in which some of the subjects have been laid down in the present work. Thus, for instance, Incubation ought to precede the Premonitory Symptoms in description as it does in fact, and Diagnosis include Symptomatology, and precede the Prognosis or Semeiology of the disease. Pathology in its large, comprehensive and olden meaning would include all these several divisions, as well as Morbid Anatomy; since it takes cognizance of the causes, symptoms, signs, seats and effects of diseases. To a consideration of the pathology would succeed that of the treatment of yellow fever; its etiology having, according to this arrangement, been described in the first division of pathology. Dr. La Roche enters on the treatment, after etiology, to which latter belong the topics

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of contagion, non-contagion and infection. Leaving, for a moment, his wise guidance, we shall first speak of the prominent points of the treatment.

A review of the treatment of yellow fever, from first to last, as so fully and perspicuously laid down in the work before us, confirms our belief that, as yet, no new principle in therapeutics, nor happy use of a remedy, on empirical grounds, has been reached on the occasion. The fact, that the physician has to deal with a synocha or inflammatory fever, which has a tendency, after three days, to decline and end in health, or to take a lull and assume a congestive character, with the accompaniment of gastric and other hemorrhages, does not seem to have suggested any peculiarity of treatment. We have yet to learn, whether there is any defined proportion between the violence of the fever, in its first period, and the occurrence of hemorrhage, or whether a diminution of the morbid excitement, by a reducing treatment, gives any positive assurance of an avoidance or prevention of the hemorhages and black vomit. Up to the present time, the indications are the same as in other fevers, viz: to moderate the inflammatory action or excitement of the first stage, to diminish or remove the associated phlogosis of one or more organs, and to husband the strength or recuperative energies of the system, so as to prevent the prostration and feebleness and other symptoms of an adynamic and typhoid state, and to remove them when present. In yellow, as in other continued and in remittent fevers, it has been made a question, whether it is in the power of medicine to cut short or materially abbreviate the duration of the disease; and in the first as in the latter case, the great weight of authority, based on experimental observation, is on the negative side. The two extreme views of this subject are equally misleading; viz: the one, which looks to strangling the disease in its birth, or to control its progress in an arbitrary manner, by therapeutical means of undoubted power and efficacy; the other, which would only allow us to see an undeviating and uniform march of the disease, made up of excitement followed by remission, of phlogosis by resolution, and of general or local perturbation and derangement by crises, more or less complete, ending, according to the completeness of the crises, either in convalescence or in death. While rejecting extremes, the prudent practitioner will take use-

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ful hints from the advocates of each of them; and in his intentness to relieve present fever, pain and other morbid phenomena, he will remember that he has no means, for this purpose, of uniform certainty of operation, at his disposal, none which he can employ with the hope or intention of breaking up the stages of the fever, or of producing evacuations, which shall be preferable to or more certain than those occurring in its progress, and bringing about a crisis of the disease. Hence, he will be continually asking himself: whether a particular symptom, although it is troublesome and even distressing to the patient, should, of necessity, call for the administration of remedies which would probably produce other not pleasant symptoms, and interfere with the progress towards a remission or a crisis?

Assuming that the yellow fever is caused by a poison circulating with the blood, and through it acting deleteriously on the organs and tissues, the great indication for cure would be the use of such remedies as would neutralise this poison, and eliminate it from the system. The theory is plausible, but it lacks something of completeness, by our not having yet ascertained what the poison is, or whether there be any poison at all.

The author of the work before us, shows how carefully he has studied all the essential points, as well as the secondary and collateral ones of treatment, when he says: "The idea of *curing* the disease, or greatly abridging its course, is entitled to little confidence. To nature must be left the chief management of the case; time must be allowed for the elimination of the poison; and the physician must be impressed with the conviction that in cases where no marked organic mischief has been done, or is likely to occur, he must keep his hands off as much as possible, and restrict his agency to the employment of such means as are strictly necessary to meet particular indications."

After remarking on the rapid course of the fever, and the early and sudden appearance of dangerous symptoms, the author counsels continued watchfulness on the part of the physician, and immediate recourse to the remedies which he deems most efficacious for moderating the violence of the onset and preventing the occurrence of secondary evils and complications. The first part of the treatment, or rather the treatment in the first or inflammatory stage, is antiphlogistic. "Of the indispensable

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necessity of the antiphlogistic and evacuant treatment, which in this, as in other fevers of a kindred nature, consists in sanguine evacuations, sedatives—internal and external—and purgatives, there can be no doubt." The enforcing remark is made that it is only during the first stage, and indeed during the early portion of it, that these remedies can be used with advantage; and the cautionary one, that they are not, as a general rule, to be used with the same freedom as in ordinary inflammations.

The antiphlogistic treatment, beginning with blood letting, is presented with the requisite fulness, and the estimate to be put on each remedy is measured by the testimony of those who on the one hand, have found it serviceable, and who on the other deem it either inefficient or hurtful. Bloodletting has in its favor the greater number of advocates, and is, though not very explicitly, approved of by the author, under specified conditions, and with certain restrictions. Emetics are mentioned, but for the most part to be reprobated, unless there be a full and an overloaded stomach at the beginning of the fever. Purgatives are recommended as undoubtedly serviceable, and the claims of calomel, as the best of this class, and the alleged necessity by its means, of acting on, and of restoring the biliary secretion are investigated. Mercury, in reference to its sialogogue effects and constitutional action, is subjected to the tests of experience, authority and reasoning, and is found to be undeserving of our confidence in the treatment of yellow fever. Diaphoresis is desirable, and alleviates the fever, but most diaphoretics are stimulating and tend to aggravate the symptoms—a distinction this on which the author lays due stress.

Sedatives, anti-emetics and astringents are next spoken of. Blistering figures among the remedies to stop vomiting and calm the stomach. Properly it belongs to the class of counter-irritants. We shall not repeat the means resorted to under the several heads just mentioned, but must refer to the pages of the work itself for abundant therapeutical details on these several topics. So, also, with external applications; prominent among these is cold bathing and affusion, and the use of water by cloths or the wet sheet, and also warm and tepid bathing. Among the most efficacious of all the agents specified in the work, cool or fresh

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air is entitled to the greatest confidence, acting as it does on two great surfaces; the cutaneous and the pulmonary.

The author speaks of counter-irritants to the skin under the head of *Counter-Stimulants.* This latter term had better be restricted to the class of remedies thus designated by the Italian school, which regards them as the very opposite to and counteracting excitement and the effects of stimulants.

Stimuli and *tonics* follow in review, and of the latter bark and and sulphate of quinia are brought up, and their appropriate claims examined. Small credit is granted to the latter on the score of its alleged power of cutting short the disease by what has been called the abortive treatment. Abortive it would, indeed, seem to have proved itself. The moral treatment, diet and the treatment of convalescence conclude this part of the subject. They abound in wise observations and available useful advice.

By far the larger part of the second volume, of which the treatment of the fever takes up rather more than a hundred pages, is occupied with the subject of the etiology of the disease, and the dependent questions of contagion, non-contagion and infection. These, alone, would constitute a work of great value to the medical inquirer and philosopher, to whom they supply a body of facts and pregnant suggestions, which are no where alse to be found collected and embodied, and which would be thought a rich reward to the solitary student for the labor of many years. The modifications in the human constitution resulting from climate, temperament, age, sex, the operations of the brain and sense, food and drinks, occupations and professions, and all the atmospheric agencies of temperature, light, electricity, pressure, humidity, and humidity and heat, vicissitudes of temperature, and winds are examined; and the actual and relative influence of each modifier is exhibited with abundant illustrations and examples. Over this favorite ground of ours, we should like much to travel with the author, but cannot. Still less are we able, with the printer's caveat against occupying farther space before us, to do common justice to the great theme of the origin and mode of extension of yellow fever. We must content ourselves with saying, in perfect sincerity, that, had a high court of medical judicature, consisting of many of the ablest men in the profession, been established, with power to summon to its aid the most learned of our

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bibliographers, and the most acute and industrious of our *savants*, the whole question in its several divisions of the foreign or domestic origin of yellow fever, its reputed contagiousness and actual non-contagiousness, were it narrated, discussed and sifted for an entire twelve-month, would not be elucidated by the same amount of learning and positive research that distinguish these labors of Dr. La Roche.

If the advocates of importation and contagion feel that they are overwhelmed by the cogency and weight of the adverse testimony and argument, farther strengthened by the matter of the Appendix, they must, at the same time freely admit, that no where, so well as in these pages, can they marshall for their defense, such an array of plausible statements and ingeniously put co-relations. Few will be found, hereafter, bold enough to incur the imputation of sciolism, by a discussion of the subject, and, above all, by taking side as partisans, without a due knowledge of the contents of the present work.

The means of Prophylaxis, at the close of the second volume, are clearly and distinctly laid down with a due regard to material and tangible poisons and nuisances, and corresponding counteractives and purifiers; but without hypothesis or mystification, and without furnishing an apology for a neglect of active sanitary duties at home, under the pretext of guarding against imaginary evils from abroad, by an expensive, vexatious and inefficient attempt to exclude the fever, by what is generally known as the quarantine system. This topic of prevention is one interesting, in an equal degree, to physicians and medical corporations, boards of health and municipal bodies, and for a clear understanding of it, and impliedly a better knowledge of their duties in the matter, they will, we hope, take the pages of Dr. La Roche for their manual of reference and instruction. We would go farther, and claim for the work a place in the department of general and literary history, and, as such, ask for its being introduced into public and other libraries, with works of this description.

In conclusion, we may here remind our readers of the language which we held in anticipation of the publication of the present work, when the production of the author on Pneumonia, &c. was under review. We said, in reference to his having collected

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large materials on yellow fever, and our desire to see them arranged and published: "The profession would then, everywhere, be able, with a feeling of just pride, to point to the most learned, comprehensive and accurate work on yellow fever which has ever appeared." Verified as this prediction has been to its full extent, can we be accused of assuming too much, in making ourselves, for the nonce, the exponents of the wishes of our medical brethren that Dr. La Roche would take up the subject of other fevers and treat them with the ability and success so signally displayed in the two works now before the public. Medical literature and medical logic, and the clinics of febrile diseases, would, we are sure, gain by his new labors, as they have gained, beyond all peradventure, by his former ones.

The Practical Anatomist; or, Guide to the Student in the Dissecting Room. By J. M. ALLEN, M. D., Professor of Anatomy in Pennsylvania College. Blanchard & Lea. 1854.

There is no book bought by the student which exercises a more important influence upon his character as a student, and, perhaps, as a practitioner, than his Dissector. It depends, in a great measure, upon the impression which this book makes on his mind, whether he will pursue anatomy with pleasure, or, as a mere necessity.

If the volume, placed in his hand to assist him in his unprepossessing labor, be such as to facilitate his studies, one which actually takes the place of the living teacher, showing him how to begin and pursue every subsequent step, then anatomy is pursued intelligently and satisfactorily.

Many of the works which have been sold in this country as Dissectors, have been mere epitomes of large works on Special Anatomy and, in reality, have been of no use to the dissector; on the contrary, they have rather served to confound him, and, perhaps, disgust him with the pursuit.

The sheets of the above named work give us a most favorable idea of its utility and adaptation to the object intended. The student who commences his early dissections with this assistant, will not have to regret the time and labor spent in the dissecting-room.

It is divided into three parts. The first, contains the head

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and neck; the second, embraces the upper extremities, back and thorax; the third, includes the abdomen and its contents and the lower extremities.

Each part contains a full description of every structure found in the region of the subject under consideration; so that the student will not be under the necessity of consulting different parts of the book, to find a description of what he will meet with in the processes of dissection.

The author has fulfilled the great desideratum in a work of the kind, in presenting everything successively, as nearly as possible, and in the order in which it will appear, to the student as he proceeds, step by step, in his dissection. This work is to teach *how to dissect*, and not merely to give a description of the parts when dissected.

Those portions of the body, a knowledge of which is so essential to the practitioner, and which can be properly studied only in the dissecting room, are treated of with a considerable degree of minuteness. It is evident that the writer has kept in view the importance of anatomy to the physician as well as to the surgeon; and the attention of the student is directed, from time to time, to the practical bearings of a knowledge of the different parts which he is dissecting.

"When the student has become familiar with the appearance and relations of parts, his attention should be directed to the practical application of this knowledge. If he has, for instance, examined the liver *in situ*, and its relations to contiguous parts, he should then study what would be the effect upon these parts when it had increased to two or three times its natural size; or, if an abscess should be formed in it, the different ways in which the pus might find an outlet. There is no place where he can so well appreciate these things as in the dissecting-room, with the subject before him."—*General Remarks.*

We are glad to see that very few arbitrary rules for finding or exposing different organs and parts are introduced. Anatomy is often taught by inches or other measurements, instead of by relation; we have seen a subject triangulated and squared as if a dead body was a field to be surveyed, and not a complex machine, whose individual parts possessed different measurements in every case. The object of the author is to aid the student in becoming a *practical anatomist*, and not one whose knowledge of the body is of merely an arbitrary or mechanical character.

It will be of a convenient form and size for use in the dis-

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secting-room, and besides being illustrated by numerous wood-cuts, it is printed in a manner well adapted for the beginner, *i. e.*, it is paragraphed and leaded in such a manner that references are easily made.

Dr. Allen's position as an anatomist, with his experience and reputation in this department of teaching, will place this work far above every American competitor.

A Manual of Pathological Anatomy. By CARL ROKITANSKY, M. D., Professor in the University of Vienna, etc. Translated from the last German edition by Wm. Edward Swayne, M. D., Edward Sieveking, M. D., Charles Hewitt Moore, George Day, M. D., F. R. S. Four volumes in two. Philad. Blanchard & Lea, 1855.

Few practitioners can be ignorant of the high reputation of Prof. Rokitansky's work on Pathological Anatomy. Its passage through three editions in Germany, taken in connection with the high testimony to its merits by its translation into English under the auspices of the Sydenham Society, evinces the estimation in which it is held throughout Europe. It is everywhere, in fact, acknowledged to be foremost and unrivalled in its department. Only the most earnest professional ardor, the most persevering labor could have enabled its author to amass the immense amount of information contained in its pages. The time and work expended on it may be judged of by the fact, that the number of bodies dissected by him is estimated at 30,000. "As a register of well-observed, well-weighed and well-arranged facts," its re-publication here cannot fail to contribute to the dissemination and advancement of sound pathological knowledge, and should be warmly welcomed by every lover of his profession.

It is impossible for us to present any digest of its contents; our limits allow us only to state, that the 1st volume (published as the last in date, by the Sydenham Society,) treats of general pathological anatomy, under the heads of anomalies, in respect of the number, size, form, position, connection, color and consistence of parts; separations of continuity, and anomalies of texture and contents; that the 2d, discusses the abnormities of the digestive apparatus, of the urinary organs and of the sexual

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organs; the 3d, of the anomalies and diseases of the cellular tissue; of serous and synovial membranes; of mucous membranes; of anomalies and diseases of the skin; of the fibrous system; of the osseous system; of cartilages; of the muscular system, and of the nervous system; and that the 4th, treats of abnormal condition of the respiratory organs, and of the organs of circulation.

With the following remarks, from a notice of the work in the Boston Medical and Surgical Journal, we entirely agree. "We need, therefore, say no more in order to recommend it to the attention of the profession, who are under the greatest obligations to the Sydenham Society, for the admirable translation which it has given to the English public, at a heavy expense and without any adequate return. We feel bound to say that the publishers of the American edition, in appropriating the translation of the Sydendam Society, ought, at least, to have acknowledged, on the title page, the source from whence it was obtained; and, indeed, all such reprints, unless authorized by their rightful proprietors, are, in our opinion, wholly unjustifiable."

We strongly recommend our readers to obtain a copy of Dr. Rokitansky's work. No library should be without it.

Transactions of the State Medical Society of the State of New York. Albany, 1855.

We have read with considerable care and interest, the "Report on Dislocations, with especial reference to their results," by Dr. Frank H. Hamilton, of Buffalo. In this paper, Dr. H. has evinced the same careful and investigating spirit that has characterized his inquiries concerning fractures. There is an effort made to discover how far these injuries are followed by perfect cures, or rather, we should say, by imperfect cures, "of the amount and character of the maiming which is likely to ensue where the reduction has been effected, and of the length of time during which such maiming may be reasonably expected to continue." He has collected the cases coming under his own experience principally as consulting surgeon, written them out at length and tabulated them with the results. He enumerates nine cases of the clavicle; forty-four cases of dislocation of the humerus; four-

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teen of the radius; twenty-one of the radius and ulna; fourteen of the metacarpus and fingers; seven of the femur; seventeen of the tibia; four of the tibia and fibula; and two of the tarsal bones.

The amount of material collected is certainly creditable to the industry of the author, and of the value of such contributions no well informed practitioner can doubt.

The table of contents of the Transactions for this year embraces twenty-one articles, many of which can be read with profit by the profession generally.

The Cause and Prevention of Yellow Fever, contained in the Report of the Sanitary Commission of New Orleans. By E. H. BARTON, M. D. Chairman of the Sanitary Commission, &c. Philadelphia, Lindsay & Blakiston.

Our May number contained a full notice of the "Report of the Sanitary Commission of New Orleans, of which Dr. Barton's paper was the largest part. As the edition was soon exhausted, Dr. Barton, to supply the demand, at home and abroad, has had his portion of the work re-published, with considerable additions; the most material of which, is a paper read by him before the "Academy of Sciences," defending his opinions and further explaining the principles contained in his report. We take this opportunity of repeating our high opinion of its merits.

THE MEDICAL EXAMINER.

PHILADELPHIA, OCTOBER, 1855.

MEDICAL NEWS.

During the week ending September 22d, there were 217 deaths by yellow fever in Norfolk, in a population estimated at 4000. In Portsmouth the deaths amounted to 115 in the same period. The total mortality from the epidemic in Norfolk was estimated at upwards of 2000. It gives

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us the most heartfelt pleasure to state that there is a considerable decline in the epidemic since the 22d. Very few new cases had occurred, and the number of deaths was much smaller in both places. In New Orleans the epidemic was generally considered at an end, there being but 89 deaths from the disease during the week ending Sept. 22d.

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The editor of the New Orleans Medical and Surgical Journal makes the following remarks in the September number: "After the most searching investigation, there appears to be an entire unanimity of opinion, both among contagionists and non-contagionists, that the yellow fever of 1855 originated in New Orleans, and that all the earlier as well as the later cases occurred among persons who had not been in any manner exposed to the fever in foreign ports or to imported contagion."

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Dr. Bulkley has resigned his connection with the New York Medical Times. The great labor and anxiety his position caused him, interfered too much with the discharge of his professional duties. We regret his withdrawal.

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In the Boston Medical and Surgical Journal of Sept. 20th, there is a short notice of Dr. Turnbull's paper on Hooping Cough, published in the August number of the Examiner. The writer says, "We notice that the author, like many others, writes 'whoop' and 'whooping cough,' 'hoop' and 'hooping cough.' We contend that the former is the orthography, the words *hoop* and *whoop* being in signification as different as they are in spelling."

As this is a very grave matter, we have taken some pains to look into it, and the following is the result of our labors. Webster defines *hooping cough* as a cough in which the patient hoops or whoops with a deep inspiration of breath. On looking for *Whooping Cough* we find it thus—Whooping Cough—see Hooping Cough. The verb Hoop, v. t. is defined to bind, to fasten, &c.; and again: 1, to drive with a shout or outcry—(Shaks.) 2, to call by a shout or hoop. Walker spells it hooping cough. Dr. Dunglison spells it both with and without the W. Drs. Wood, Copland, Watson, Dr. Johnson, in the Cyclopædia of Practical Medicine, Dr. J. F. Meigs, in his work on Diseases of Children, Dr. Williams and Dr. Gerhard, in Tweedie's Library, Dr. Bell, in Drs. Bell and Stokes' Practice, Dr. Walshe, in his "Diseases of Lungs, &c.," and Dr. Forbes, in his Translation of Laennec, all spell it *Hooping* cough.

We do not intend to *hoop* or make a loud cry about the matter; all that

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we wish to know of our orthographical friend is whether he still holds on to his W. We pause for a reply.

OBITUARY.—Among the many physicians who have fallen victims to the yellow fever in Norfolk, we regret to perceive the name of Dr. GEO. L. UPSHUR, whose valuable contributions to this journal are well known to its readers. Dr. Upshur was highly respected in Norfolk, where he occupied the post of Surgeon to the Marine Hospital.

RECORD OF MEDICAL SCIENCE.

Ventral Hernia, six years irreducible.—Treatment by Ice.—Reduction. (Under the care of Mr. LLOYD.)—The reduction of herniæ, which without symptoms have long been irreducible, is not always a matter of moment. They generally consist of omentum, and, excepting they occasion inconvenience by their size, or by dragging upon the other viscera of the abdomen, it is, perhaps, as well to allow them to remain. While in the sac the omentum acts as a sort of plug, and, to a certain extent, lessens the likelihood of the protrusion of bowel. There are cases, however, in which it becomes very desirable to effect reduction, and as a guide to the practice most likely to be successful, the following brief narrative seems worthy of being placed on record.

A few weeks ago Richard B., a laboring man, aged 54, stout and fat, was admitted into Pitcairn ward, on account of an adipose tumor in the right thigh. At the same time he mentioned also a second tumor of much smaller size, and to which he did not attach much importance, which was situated in the abdominal wall. On examination, a lump about the size of an egg, flattened, and giving to the finger exactly the impression of a mass of omentum, was found about an inch to the left of the median line, midway between the umbilicus and pubes. The margins of the aperture in the muscular parietes could be plainly distinguished, and, as the mass received a very decided impulse during coughing, no doubt was felt as to its nature. The man stated that he had known of its existence for six years, during which time he had never been able to get it back. He had never had any symptoms of strangulation, but ever since the tumor had existed, he had been liable at times to sickness and vomiting, especially after eating freely. A sense of dragging was, he said, very frequently present, when at work, but it had never prevented him from following his occupation. His most comfortable position was the recumbent.

The fatty tumor having been excised, during the time that the man was confined to bed on account of the wound, Mr. Lloyd several times attempted to reduce the hernia, but without success. On each occasion it would seem to diminish somewhat, but could never be quite returned.

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Such being the case, it was decided to try the ice treatment, and a bladder of ice was accordingly ordered to be kept constantly applied over the part. Mr. Jowers, the House-Surgeon, was to employ the taxis perseveringly every morning. Under this plan complete reduction was effected on the ninth day. No restrictions in diet had been enforced, and the application of the ice had not been quite constant. The man was subsequently furnished with a truss, and up to the time of his discharge no reprotrusion had ever taken place.

The case of a young man, under the care of Mr. Hilton, in Guy's Hospital, for whom a large scrotal hernia, which had been six months irreducible, was returned under the ice and abstinence plan, may be found, detailed in our Reports for May 28th, 1858, page 554. In it the necessity for reduction was great, as the man had been quite prevented from doing work. Five day's treatment were required, during which time the man was made to almost abstain from fluids, while diuretics and purgatives were freely given. By these means the quantity of the circulating fluid was reduced as much as compatible with health, and so manifest was their effect, that the tumor which had much decreased in size, and become soft and loose in its sac, ultimately slipped back almost without pressure.

M. Malgaigne, to whom belongs much credit for drawing attention to this mode of practice, has recorded several very instructive examples of its success. In one under his care, a scrotal enterocele, unreduced for several years, was got back by seventeen days' treatment. In a second, a scrotal enteroepiplocele, which had been irreducible for seven years, yielded in six days. In both these a very low diet was enforced.—*Med. Times and Gaz.*

Contractions from Rheumatism and old cases of Anchylosis of the Knee-joint cured by Chloroform. (Under the care of Mr. Erichsen.)—Five cases of contraction of limbs from rheumatism and from old anchylosis of the knee-joint and other joints, under care during the last few months at University College Hospital, requiring different plans of of practice, but illustrating well the resources opened up by chloroform treatment, have appeared to us very deserving of notice in a practical point of view.

These cases, under treatment at different times, have been the result of chronic inflammatory disease of the knee-joint; in all of them the leg was bent on the thigh to different degrees, varying from a right to a more or less acute angle; in none of the cases could the patients put the foot to the ground or use it in progression. The plan of treatment adopted by Mr. Erichsen is, to place the patient fully under the effects of chloroform, so as to relax the muscles of the limb, and render the patient insensible to the pain of the operation; then, as the lesser evil of the two, forcibly to straighten or extend the bent-up leg. In doing this, we noticed on more than one occasion loud snaps or cracks in the joint —not a little alarming at first, though without danger—as the false membranes within and ligamentous structures outside the joint were broken through. The extended limb is then put up in a straight splint, evapo-

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rating ether lotions applied, and the patient kept quiet. Generally this plan suffices to straighten the limb, but in some very obstinate instances division of the hamstring tendons is required; this, however, Mr. Erichsen finds it rarely necessary to employ, only one of the five following cases requiring it.

Case 1.—A young woman, aged twenty-two, who had been attacked, April, 1855, with acute rheumatism and rheumatic contraction of the left knee, the latter bent at nearly a right angle and excessively painful, came under Mr. Erichsen's care, who succeeded in straightening the limb under chloroform. The subsequent inflammation was easily reduced by leeches and slight mercurials. She appears latterly quite well, and wears the starch bandage. She would not allow the limb even to be touched previous to the use of the chloroform.

Case 2.—A man, aged twenty-three, came under care in July, with contraction of his left knee, which was bent at right angles, and had been in this condition for eight months, the result of inflammation of the joint. There was no pain or uneasiness about it; very limited motion, not more than about two inches when he attempted to move the foot. Mr. Erichsen had him placed under the influence of chloroform, and then forcibly stretched the limb; loud crackling noises were heard as if something were being crunched or torn through. There were no inflammatory symptoms subsequently; and he was able to leave the hospital in ten days, merely wearing starch bandages.

Case 3.—A woman, aged thirty; anchylosis nearly complete of left knee for nine months, consequent on rheumatism; scarcely any motion in the joint; no pain or tenderness. The limb here also was straightened, or forcibly extended, under the influence of chloroform. The extension was attended with loud snapping or crackling of the old adhesions. Some severe inflammatory action followed, which, however, was easily subdued by evaporating lotions. This woman also had starch bandages applied; and left the hospital quite improved in health.

Case 4.—A woman, aged forty-two, whom we saw operated on early last month. She complained of anchylosis of the knee, with bent or twisted condition of the fore-arm and hand, all the result of rheumatic inflammation contracted two years since. Mr. Erichsen straightened the limbs as usual under chloroform; though at first he believed that he should have had recourse to division of the tendons. Loud crunching sounds were heard, as in the former cases. This case also has done well.

Case 5.—This was an instance of anchylosis of the left knee, in a female, aged thirty-two, of not less than sixteen years' standing, during the whole of which period the limb had not been put to the ground. The leg was considerably wasted, though nearly as long as the healthy limb; it was bent nearly at a right angle; the hamstring tendons were very tense. Mr. Erichsen having placed the patient under chloroform, divided these tendons, and then forcibly straightened the limb, tearing down apparently to us, several old adhesions, in and around the joint. No inflammatory action supervened; and this limb is now in a straight position, supported by starch and gum bandages.

These cases may not claim any superiority over many others of a like

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kind by their originality, yet they are deserving of notice for their practical value.—*The Lancet.*

Erysipelas and Pyæmia in Relation to Surgical Accidents, treated by wine, ammonia, and other stimulants. (Under the care of DR. TODD in King's College Hospital.)

The prophylaxis or due prevention of purulent infection, in surgical cases in hospitals, must ever be a subject of paramount interest to the practising surgeon. Pyæmia holds a very prominent place in the causes of death in those operated on in hospitals. An opinion, however, has gained ground, perhaps too readily, of the total incorrectness of this assertion, and patients have been too often abandoned to their fate under this impression. The rule usually adopted amongst surgeons is to prevent as much as possible the formation of pus, or, where pus is already formed, to assist and encourage its exit by free incisions and pressure over purulent sinuses. We have been very much gratified, however, of late, with the result of some cases allied to pyæmia, under the care of Dr. Todd, in the medical wards of King's College Hospital. Dr. Todd proposes to check pyæmia by diminishing excess of inflammation in wounds, and checking erysipelas, both of which, as leading to the secondary results of inflammation, help to induce pyæmic fever. Pyæmia amongst the wounded soldiers, in summer, in the Crimea, for instance, is not less fatal than scorbutus in the winter, but both are curable, according to Dr. Todd, if only treated by stimulants from the first, such as brandy, beef-tea, ammonia, opium, &c. It would seem, that while surgeons have been in too many cases looking on pyæmia as theoretically quite incurable, it has often cured itself; and while we have been hitherto absorbed in the microscopical question whether pus-globules enter the circulation in this disease as such or are broken up into poisonous matter, the more practical men have recognized phlebitis as at once an almost constant cause of pyæmia, and a not unfrequent mode of *cure* also of the pyæmic complication, set up by Nature itself. The cause of pyæmia, we may say, as when not suspected, the mixture of the elements of pus in phlebitis, if not pus itself, may exist along the veins, even as far back as the auricles of the heart. This phlebitis, if properly treated, leads to a blocking up of the vein by fibrinous adhesion and a stoppage of the purulent absorption, thus becoming a means of cure; but if neglected or encouraged by depressing or antiphlogistic remedies, only leading to the most disastrous results—further formation of pus, with hectic and irritative fever, general debility of the system, unfavorable to the dispersion or resolution of the fever, or poison in the system, and death.

One of Dr. Todd's cases, a type of a class of cases received into this and other hospitals, was the following:—

J. C——, aged about 20, admitted into King's College Hospital with bad erysipelas of the face and head. The case was one of those very severe attacks in which the man might die, and the erysipelas might be said to have attacked the brain. Dr. Todd, however, believes that erysipelas does not "fly to the brain," but that, as in the puerperal peri-

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tonitis of women, which he considers as an erysipelatous affection, as in œdema of the glottis, and as in pyæmia, both so fatal, the cause of death is to be found too often in the secondary results of inflammation and fever. Erysipelas has a tendency to attack the areolar cellular tissue of organs, but this, according to Dr. Todd, is altogether obviated by treating such cases from the beginning with beef-tea and ammonia and bark, and not, as formerly, by leeches, bleeding, and mercurial purgatives. Erysipelas may thus be cut short, and get well in seven days, instead of being eighteen or twenty. We have observed in all the hospitals, of late, these views coming more and more into use. Some of the very old practitioners still adhere to water-gruel, purgatives, depletion, and antiphlogistics; while as a more general result the opposite plan leads to a more scientific treatment of cases and to the saving of human life.

Pyæmia is sometimes checked by stopping the inflammation of the veins by the pre-application of caustic, or as more recently advised and practised, by that of the actual cautery itself along the course of the vein, to encourage adhesive inflammation. The experiments of Cruveilhier, in which mercury was injected into the veins, and almost simulated the phenomena of some of the secondary results of inflammation and pyæmia, all further corroborate Dr. Todd's opinions. Lebert, it is true, demonstrates that pus in the blood destroys the globules of the blood itself, diminishing its fibrine and precipitating its fatty matters; but not showing that this may not lead to purulent deposits in the lungs and liver, ending in death. These fatty deposits in the heart and blood-vessels of those dying of pyæmia we have seen in the dead house; but all or many of such secondary results of inflammation attending surgical operations may be obviated, according to Dr. Todd, by joining a medical to a surgical treatment of such cases. The remote causes of pyæmia and erysipelas, according to the most truthful observers, being the crowding together of surgical patients and neglect of their wounds; the closing up too much of wounds and stumps as observed to us not long since by Sir Robert Carswell; next, wounds of veins and ligatures of veins; but above all, certain epidemic or meteorological influences, especially in large cities like Paris or London, which at specific seasons interfere with the healthy formation of blood and pus; while the immediate or efficient pathological cause of pyæmia seems undoubtedly to be pus or its serum absorbed into the current of the circulation. Thus the surgeons of the French school do not hesitate, by amputation of a limb, to cut off the absorbing surface on the access of the first rigors of the pyæmic fever; while Dr. Todd, on the other hand, would obviate it on the principle of "principiis obsta," anticipating the secondary evils of inflammation by cutting the latter short by the treatment now found more effectual than that formerly observed.—*Lancet.*

Camphor an antidote to Strychnia—experiment—failure, &c. &c.—Having read an article in the 51st vol. p. 476, of the Boston Medical and Surgical Journal, from Dr. Tewksbury, of Portland, Me., upon the antidotal effects of camphor upon the poison of strychnia, I have been induced to make an experiment with reference to it, and report the

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result thereof in your Journal. On the 1st of May, 1855, I procured two dogs of equal size, age, and health, for the purpose of experimenting. To the first I gave 1 grain of strychnia, followed immediately by the administration of 2 drachms of strong alcoholic tr. of camph.; in ten minutes, I gave another drachm. In twenty minutes from the time it took the poison, it fell, strongly convulsed, apparently dead; the fit lasted five minutes. When it recovered a little, I gave 2 drachms more of tr. camph.; in five minutes it had another fit, harder than the first, lasting ten minutes. It was scarcely recovered when it took another, and in five minutes died.

To the second, I gave ½ gr. strychnia, followed by 1 drachm of tr. camph. In ten minutes, I gave another drachm; and in ten minutes, another. In five minutes from the last dose of camphor, it had a light fit, which lasted but a few seconds. In ten minutes, I gave a drachm more, which was scarcely swallowed when it was taken with violent convulsions, and died in a few minutes.

In one hour after their death, I inspected the bodies. In both, serous effusions were present in the head, and its vessels filled with fluid blood. The lungs were in a highly congested state. The heart and its vessels contracted and empty. The bodies of both were flaccid, as soon as death took place. In the first, the stomach was much inflamed, of a deep violet tint, the poison adhering to its villous coat; detected, by the addition of nitric acid, when it assumed an orange-red, which soon passed to a golden yellow hue. The stomach of the second was but little affected; none of the poison could be detected on its coats. The intestines of both were tied into a perfect knot. The first died in about 45 minutes from the time it took the poison—1 grain of strychnia; the second died in 37 minutes, and took half the quantity of poison the first did. The first took 5 drachms of tr. camph.; and the second 4 drachms. Was it the extra drachm of camphor that prolonged the life of the first? I think not.

J. E. THOMPSON.

Bates Co., Mo., August, 1855.

Boston Med. and Surg. Journ.

On a Case of Resuscitation of a Still-Born Child. By JOHN WILLS, M. D., Jersey.—On the 8th inst. I was summoned to attend Mrs. J. with her first child, and after a natural labor of twelve hours she was safely delivered of a still-born child, and great was my disappointment at finding such to be the case, as Mrs. J. came from France here to be under my care.

How long life had ceased before the head was born I cannot say, but evidently life was quite extinct at birth, and the child's mouth and nose full of dark, sanious discharge, a large quantity of which passed with the child. There had been no liquor amnii.

After having divided the cord, I determined on trying to recover the child, and after having tried the usual means—shocks of cold water, &c.,—to no effect, I requested the nurse to bring me some hot water, into which I immersed it, the child then being quite cold, and sent to the husband to ask if he had a tube of any sort, but he had not; so I

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procured a goose-quill, of which I made a tube, one end of which, guided by my finger, I passed into the larynx, and inflating the lungs with my breath, and emptying by pressure on the chest, which process I continued for more than half an hour, when I perceived a slight motion of the abdominal muscles, and, still persevering, my efforts were crowned with success, and I delivered the child to the nurse, crying lustily, much to the joy of the parents, as well as to my own satisfaction. The child has since done well.

This case, I think, fully proves that we ought always to make the attempt at resuscitation in still-born children, and it also proves by what simple means it may be brought about. Had I lost the child I should have blamed myself for having neglected taking with me, which I invariably do, an elastic catheter.—*London Lancet.*

Percyanide of Mercury in Syphilitic Ulceration of the Tongue.—Mr. Wormald, at St. Bartholomew's Hospital, has recently been employing a saturated solution of the bicyanide of mercury, as an application to syphilitic ulcerations, abrasions, etc., on the tongue. Without speaking very enthusiastically respecting it, he states that he has obtained more satisfactory results from it than from any remedy he had previously employed. The solution is painted over the affected part, care of course being taken that the patient do not swallow any quantity of it. The extremely intractable nature of this form of syphilis is matter of general remark.—*Medical Times & Gazette, July,* 1855.

On Chancre. By Professor SIGMUND. From observations conducted on a large scale at the Vienna Hospital, Dr. Sigmund concludes: 1. Chancre can only be treated locally during the first four days, and the farther we recede from this the greater the urgency of the general treatment. 2. The local treatment consists in cauterization, which effectually destroys all the chancrous exudation to the sound tissue. 3. The observation of more than a thousand cases, during eleven years, assures Dr. Sigmund that secondary symptoms never occur when the chancre has been completely destroyed within the four first days. He is only aware of two doubtful cases in which cauterization on the fifth day even has not prevented accidents. The best caustic is the Vienna, composed of quick lime and two or three parts of caustic potass. Cauterization should also be practised even after the fifth day, for although the chances of preservation from secondary syphilis are diminished, they are not totally abolished; and we prevent the chancre being communicated to other parts of the same patient, or to other individuals. 3. The general treatment consists in the methodical employment of mercury, no other means cure so quickly and so surely. 4. In the exceptional cases in which secondary symptoms occur in spite of general treatment, they are not found in an aggravated form. 5. According to circumstances, the general treatment should be continued for six or twelve weeks. The levity with which the public and the profession at the present time regard venereal symptoms, should be met by the strongest opposition. 6. Clinical observations show that every chancre, well diagnosticated, and not carefully destroyed, leads to secondary symptoms if general treatment

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has not been instituted. This will be admitted by all who establish a rigorous diagnosis, and look for secondary symptoms soon enough where they are first to be found, viz., in the lymphatic glands. 7. Positive diagnosis is alone attainable by inoculation or the production of secondary symptoms. 8. Secondary symptoms are usually observed about the sixth week after infection, and very rarely later than the twelfth; and we must not always depend upon the patient's assertion, but make ourselves a rigorous search for their early manifestation. If between the sixth and end of the twelfth week no secondary symptom has shown itself, and the local manifestation has disappeared, the patient may be pronounced cured—the few exceptions that occur notwithstanding. 9. The amount of mercury administered varies according to the indications offered by different patients. The dietetic and hygienic management, both during and after taking the mercury, is too much neglected.—*Med. Times and Gazette, from L' Union Médicale*, 1855.

Abstract of Meteorological Observations for August, 1855, *made at Philadelphia, Pa. Latitude* 39° 57′ 28″ *N., Longitude* 75° 10′ 40″ *W. from Greenwich.* By Prof. James A. Kirkpatrick.

1855. August.	Barometer. Daily Mean	Barometer. Mean Daily Range.	Thermom. Daily Mean	Thermom. Mean Daily Range	Dew Point 2 P.M.	Force of Vapor 2 P.M.	Rel. Humid. 2 P.M.	Rain.	Prevailing Winds.	Remarks.
	Inches.	Inches.	Deg.	Deg.	Deg.	Inches.	Hunds.	Inch.	Points.	
1	29.877	.078	78.3	3.5	71.5	.772	.70		E.NE.	Cloudy.
2	29.940	.064	75.8	2.5	66.2	.644	.64		NE.	Cloudy.
3	29.999	.058	76.2	0.7	72.0	.783	.82	0.168	(Var.)	Cloudy; aft. *rain*. [l'ng.
4	29.827	.172	77.0	3.2	72.2	.788	.68	0.326	(Var.)	M. & A. cl'r; ev. *rain*, th'r &
5	29.695	.131	74.5	3.2	69.3	.716	.77	0.254	NE.	Cloudy; ev. and night *rain*.
6	29.740	.052	76.5	5.0	66.4	.648	.59		NW.	M. & aft. cloudy; ev. clear.
7	29.873	.133	75.8	2.0	69.6	.723	.75	0.027	W.	M. & ev. cl'r; aft. *R.* showers
8	29.946	.084	72.0	3.8	63.1	.577	.65	0.034	NE.E.SE.	Cloudy; *rain* during night.
9	29.546	.400	78.3	6.3	75.2	.872	.86	0.131	SW.	M. cl'y, A. r'n, E. cl'r. *Bar.*
10	29.642	.096	75.5	2.7	56.4	.455	.46		W.	Clear. [*lowest* 29.514.
11	29.922	.280	72.0	3.5	53.0	.402	.45		N,NE,E	Clear.
12	30.107	.185	73.7	1.7	61.0	.537	.55		E.	Clear.
13	29.975	.134	79.0	5.3	71.5	.772	.70		(Var.)	M. and aft. cl'dy; ev. clear.
14	29.971	.035	78.0	1.3	61.0	.534	.49		NW,N,NE.	M. and ev. clear; aft. cl'dy.
15	29.943	.037	77.5	1.2	65.3	.624	.58	0.138	NE,SE.	Cloudy; ev. *rain*.
16	29.766	.177	80.8	3.3	74.2	.845	.75	0.014	SE,SW.	M. *rain*, aft. cl'dy, ev. clear.
17	29.743	.075	80.3	2.8	68.8	.704	.60		SW.	Cloudy. *Th. highest* 84°
18	30.051	.308	70.7	9.7	47.8	.332	.39		NW.	Clear.
19	30.216	.166	67.7	3.0	50.6	.368	.46		N,W,S.	Clear. *Th. lowest*, 55°
20	30.229	.017	70.8	4.2	51.6	.382	.44		S.	Clear. *Bar. highest* 30.255.
21	30.146	.083	73.0	2.5	59.8	.514	.54		(Var.)	M. and aft. clear; ev. cl'dy.
22	30.036	.110	76.3	3.3	66.6	.651	.66		(Var.)	Cloudy. [& lightning.
23	29.751	.285	78.8	3.8	74.2	.845	.75	1.880	SSW.	Cloudy; M. & aft. *rain*, th'r
24	29.743	.081	79.2	1.7	71.0	.758	.67		W.	Cloudy. M. fog.
25	29.936	.193	78.5	1.5	63.4	.584	.50		NE.	Cloudy.
26	29.906	.055	78.3	1.7	75.2	.873	.83	0.193	S,SW,SE.	Cloudy; *rain*, th'r & lt'ng.
27	29.968	.063	70.8	7.5	62.5	.566	.73	0.072	NE.	Cloudy. M. *rain*.
28	29.990	.036	70.2	3.3	54.8	.429	.51		NE.	M. and aft. cl'dy; ev. clear.
29	29.921	.081	69.5	4.0	58.1	.484	.55		NW,W,SW.	Clear.
30	29.977	.128	73.0	5.2	55.7	.444	.46		NW.	Clear.
31	30.229	.252	67.7	5.3	56.9	.463	.55		NE.	M. & ev. clear, aft. cloudy.
Means for Aug., 1855	29.923	.131	75.0	3.5	64.0	.616	.62	3.237	N. 33½° W. 7-100.	
Means for Aug., 5 yrs.	29.921	.107	74.0	4.1	58.4			2.909	N. 83½° W. 14-100.	
Summer Means, 1855	29.838	.114	75.5	3.9	64.0	.622	.60	17.839	S. 77° W. 30-100.	
Summer Means, 4 yrs.	29.808	.097	74.8	4.0	58.0			12.939	S. 76½° W. 25-100.	

The Monthly Range of the Barometer was 0.741 of an inch, and of the Thermometer 29°.

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THE

MEDICAL EXAMINER.

NEW SERIES.—NO. CXXXI.—NOVEMBER, 1855.

ORIGINAL COMMUNICATIONS.

*Medical Topography, Climate and Yellow Fever of Rio de Janeiro, Brazil.** By W. S. W. RUSCHENBERGER, M. D., U. S. Navy.

The city of St. Sebastian, or, as commonly called, the city of Rio de Janeiro, dates its foundation from about the middle of the sixteenth century. It is now the largest, as well as the oldest, city in America, south of the equator. In December, 1854, its population was estimated to be not less than 300,000; a census in 1850, returned 285,000; for this and other reasons, it is believed the estimate does not exceed the truth.

This city, the capital of Brazil, is situated in latitude 22° 55′ south, and longitude 43° 09′ west from Greenwich, on the western shore of an extensive bay, the extreme diameters of which are about twenty miles, more or less. The sheet of water is pear-shaped, and broken in many places by islands of considera-

*1. Relatorio sobre medidas de salubridade redamadas pela cidade do Rio de Janeiro, e acerca da Febre Amarella em particular, para subir a Augusta Presença de S. M. O. Imperador, pelo Dr. Francisco de Paula Candido, Medico de sua Magestade o Imperador—premeiro secretario da Camera dos deputados—lente da escola de Medicina—Presidente da commissão sanitaria, da junta central de

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ble size; its shores are moulded into coves and bays, points and headlands. The back ground is formed of precipitous mountains, varying in height from 1500 to 3000 feet, which constitute a most picturesque scenery, clothed in the luxuriant vegetation of the tropics. Its geographical position makes it a commercial centre for trade with India, Oceanica, South America and Europe; ships of almost every nation are found, in the course of a year, lading or unlading cargo at this port.

The site of the city is a marshy plain, studded by lofty hills of granite, or granitic gneiss. The soil on the hill sides is remarkably thin, and, in any climate of less moisture and temperature would be inadequate to support the vegetable growth upon it. In the valleys it is deeper, an alluvium being washed from the declivities by the rains, and deposited upon a thick bed of

Hygiene, e da Academia Imperial de Medicina, &c. Rio de Janeiro, no Typographical Nacional. 1854. Folio, pp. 51.

Report upon the sanitary measures required in the city of Rio de Janeiro, and upon Yellow Fever in particular, to be submitted to the Emperor. By Dr Francisco de Paula Candido, &c. &c. Folio, pp. 51, with maps and tables. May, 1854.

1*a*. The author presented a report, bearing very nearly the same title, in May, 1853, printed in 8vo., forming a neat pamphlet of 50 pages, to which occasional reference may be made.

2. Observaçôes ácerca da Epidemia de Febre Amarilla do Anno de 1850, no Rio de Janeiro, colhidas nos hospitaes e na poly-clinica pelo Dr. Roberto Lallemant, (native of Lubeck,) Cavalleiro da Ordem Imperial de Christo do Brazil; Commendador da Ordem Imperial de S. Estanistáo da Russia, Medico da Enfermaria dos Estrangeiros da Santa casa da Miseracordia, e durante a epidemia da Enfermaria dos Estrangeiros dos lazaretos da Ilha do Bom Jesus e de N. Sra. do Livramento: Medico do Hospicio de Pedro II; Membro correspondente de Sociedades Medicas da Suecia, Prussia e Saxonia: 8vo. pp. 152. Rio de Janeiro, 1851.

Observations on the epidemic Yellow Fever of the year 1850 in Rio de Janeiro, collected in Hospitals and general practice. By Dr. Robert, Lallemant, (of Lubeck,) &c., &c.

3. Descripção da epidemia de febre amarella que grassou na provincia do Cearáem 1851 e 1852 pelo Doutor Liberato de Castro Carreira. Formado pela Escola de Medicina do Rio de Janeiro, socio effectivo da Academia Medica Homœopathica do Brazil, &c., &c. 8vo. pp. 91. Rio de Janeiro, 1853.

Description of Epidemic Yellow Fever, which prevailed in the province of Ceará, (Brazil,) in 1851 and 1852. By Liberato de Castro Carreira, &c., &c.

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clay, which underlies nearly the whole of the district, and keeps the surface of the earth from becoming dry by natural drainage.*

When the city was commenced, on the Punta Calabouça, the vicinity was almost constantly overflowed by pools of stagnant water, which were supposed to be prejudicial to the general health of the population. Staunton, Macartney and other voyagers notice this condition, which remained up to the time of Pedro I., when the marsh was partially drained and improved. A look from the convent of San Bento, or a ride towards the imperial palace of San Christovâo, will satisfy the observant traveller of the real nature of the topography, and lead him to believe there are sources enough of miasm in the neighborhood to render the place unhealthy. Intermittent fevers prevail at all seasons along the shores, and upon the islands of the bay, especially amongst those of the population who are imperfectly nourished and sheltered; occasionally it is severe and fatal in its effects. In 1845, there was considerable mortality and suffering on the Ilha do Governador, which was attributed to extensive marshes by Doctor Joao José Vieira, who was appointed by the government to investigate the subject.†

Placed immediately beneath the tropic of Capricorn, Rio de Janeiro is under all the climatic influences common to equatorial and intertropical regions.

The granite hills around the city, as well as the expanded surface of the bay, constitute reflectors of the calorific rays which augment the temperature and humidity, which are not abated much by the winds because they are interrupted by the disposition of the mountains. This circumstance would render Rio de Janeiro less habitable were it not for the evergreen vegetation, which in turf and woods, covers the plains and hills, and the abundance of water which falls in cascades from almost every elevated point: these concur to temper the ardor of the climate. Nevertheless, the atmosphere is more or less impregnated with vapors, and sometimes covered with clouds, which hang about the mountain peaks, and cause, on some days, a suffocating heat, called by Brazilians *mormaço*—a sultry time—which is so debilita-

*Travels in the interior of Brazil, principally through the northern Provinces, and the gold and diamond districts, during the years 1836–41. By George Gardiner, M. D., F. L. S., &c. Second edition. London, 1849.

†Annuario Politico, p. 46.

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ting as to deprive one of the aptitude for intellectual or muscular exercise, as well as the powers of digestion, and lead to a belief that the temperature is much higher than indicated by the thermometer. Meteorological observations made during thirty years, by Bento Sanches Dorta, and published in the "Memorias da Academia Real das Sciencias de Lisboa," show that the annual mean temperature of Rio de Janeiro was 73°.04 F., nearly 10° more than the mean temperature of Lisbon, although this city (Rio) is 16 degrees nearer to the equator. Consequently the heat of Rio de Janeiro, which is so much felt, particularly on cloudy days, is chiefly due to the nervous excitability and debility of the organism, caused by atmospheric humidity, and not to the excess of the thermometric scales, which is even below that of other localities in the same latitude.

The observations of A. M. de Mello, hourly made at the Observatory, show an increase of 2°.11 F. over those of his predecessor, Dorta. This augmentation of the annual mean temperature is attributed to the clearing of the forests in the interior and in the vicinity of the city, which not attracting rain as frequently as formerly, the atmosphere and earth are not washed as often by summer showers; besides, the land wind, not receiving exhalations from the multiplicity of leaves, the air is not so much freshened as when the forests were abundant, and, for this reason, it is supposed, the temperature has been greater; being now 75.151° F., and not 73.04° F., as it was in the past century.*

It is a fact generally attested by those well acquainted with Rio de Janeiro, that rain is not now as frequent as formerly. It is a vulgar tradition, that fifty years ago, when friends separated in the morning, they took leave of each other *until after the thunder shower of the afternoon*, which was an invariable phenomenon in the summer seasons particularly, but now this regularity of the afternoon rain does not exist. According to the observations of Dorta, at the close of last century, the annual mean fall of rain was 55 inches, and the number of rainy days was 140. According to the observations of A. M. de Mello,

*Relatorio sobre a Salubridade da Cicade de Rio de Janeiro e a Febre Amerella em particular, Para subir a Augusta Presença de S. M. O. Imperador por su reverente e respeitose medico Dr. Francisco de Paula Candido, Presidente da Junta da Hygiene Publica. Rio de Janeiro, 1853.

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only 46 inches of rain fell in the year 1851, and the number of rainy days was 103, yet the year was not considered a dry one.*

Storms accompanied by electric discharges, so common formerly in the summer season, are now much less frequent. In the first year of Dorta's observations, there were 77 thunder storms over the city and its vicinity; and, according to Mello, there were only 18 in the year 1851. It is proper to state that in conversation, Colonel Mello expressed an opinion that observations had not been made for a period sufficiently long to establish this supposed change in the electrical constitution of the atmosphere. Dr. Roberto Lallemant, in his Observations upon the Yellow Fever of 1850, says, that for four or five years, thunder showers had sensibly diminished, and in the hot seasons of 1849–1850, they almost totally disappeared.†

The magnetic tension is, according to Baron Eckwege, 21 vertical oscillations per minute; and the inclination 28° 47′ 33″, south.*

The atmospheric pressure is subject to the variations observed in tropical countries; the least pressure corresponds to the humid and cloudy period of summer, namely, December, January and February; and the greatest to the dry days of winter, namely, May, June, July and August.

The monthly mean temperatures, according to Farenheit's scale, and the monthly mean pressure of the atmosphere, stated in millemetres, reduced to the temperature of 32° F., are exhibited in the following table, which has been prepared from tables politely presented to me by Colonel Antonio Manoel de Mello, Director of the Imperial Observatory at Rio de Janeiro.

*Climatologia em geral: em particular, o clima do Rio de Janeiro. Por Joaquim José de Medeiros. There para o doutorado em Medicina. Rio de Janeiro, 1852.

†Observaçôes acerca da Epidemia de Febre Amerella do Anno de 1850 no Rio de Janeiro, colhidas nos hospitaes e na polyclinica pelo Dr. Roberto Lallemant, (Natural de Luebeck.) Cavalleiro da Ordem Imperial de Christo do Brazil; Commendador da Ordem Imperial de S. Estanistáo da Russia; Medico da Enfermaria dos Estrangeiros da Santa Casa da Misericordia, e durante a epidemia da Enfermaria dos Estrangeiros dos lazeretos da Ilha do Bom Jesus e de N. Sra. do Livramento; Medico do Hospicio de Pedro II; Membro correspondente de Sociedades Medicas da Suecia, Prussia e Saxonia. 8vo. pp. 152. Rio de Janeiro, 1851.

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Monthly mean temperature and pressure of the atmosphere at Rio de Janeiro, for 1851, 1852, 1853, *arranged from the observations made at the Imperial Observatory, by* A. M. de MELLO.

☞The temperatures are according to Farenheit's scale. The height of the barometer is stated in millemetres, reduced to the zero of centigrade, or 32° F.

	Mean Monthly Temperature.			Barometric Observations.		
	1851	1852	1853	1851	1852	1853
				mm.	mm.	mm.
January -	84.824	79.316	80.474	754.388	755.330	755.959
February - -	81.649	80.402	80.416	754.779	755.911	754.677
March - - -	79.293	80.945	77.802	755.621	756.456	756.911
April - - -	79.550	76.875	79.187	755·699	756.714	756.216
May - - -	73.104	71.932	72.775	758.910	760.579	758.219
June - - -	69.805	71.980	70.734	760.106	761 128	761.395
July - - -	71.061	70.894	71.212	759.571	760.477	761.354
August - - -	70.474	70.028	72.035	759.210	760.015	758.667
September - -	68.122	71.760	74.139	759.382	759.305	757.617
October - -	73.545	72.129	73.792	756.178	757.758	756.773
November - -	74.915	77.217	77.932	753.260	754.980	755.361
December - -	76.676	81.786	77.257	755.095	754.511	755.084
Mean of the year. -	75.171	75.583	75.680	756.843	757.768	757.277

A luxuriant vegetation, an abundance of water, and the action of heat upon a locality excluded from a free circulation by the surrounding mountains, assist in augmenting the humidity which is noticed in the atmosphere of Rio de Janeiro. The observations of Dr. Friere Allemao, demonstrate that the humidity varies between a minimum of 42, and a maximum of 100 degrees of Saussure's hygrometer, the mean being 85. M. Pissis, in his work, presented to the Academy of Sciences of Paris, proves that the humidity of Rio de Janeiro is double that of Paris.

The absolute humidity increases in the course of the year, from July to the following February, when it reaches its maximum; it then decreases in the same ratio until it falls to the least quantity. In the course of the day, the same march is observed: the maximum is in the early morning; it increases until 5 o'clock, P. M., and decreases with the cooling of the earth; this course is more regular in summer than in winter, when the humidity is nearly the same throughout the twenty-four hours. These hygrometric details, reported by M. Pissis, are confirmed by the observations of Colonel Mello, made with the condensing hygrometer of Regnault.

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Hygrometric condition of the Atmosphere at Rio de Janeiro, for the years 1851, '52 *and* '53, *arranged from observations made at the Imperial Observatory by the Director,* A. M. DE MELLO.

	CONDENSING HYGROMETER OF REGNAULT.								
	Monthly Mean for the year 1851.			Monthly Mean for the year 1852.			Monthly Mean for the year 1853.		
	Dew Point, or Temp. of Condensation.	Tension of Vapor.	Weight of water in cubic metre of air.	Dew Point, or Temp. of Condensation.	Tension of Vapor.	Weight of water in cubic metre of air.*	Dew Point, or Temp. of Condensation.	Tension of Vapor.	Weight of water in cubic metre of air.*
	Deg. Fahr.	M.M.	Grammes.*	Deg. Fahr.	M.M.	Grammes.	Deg. Fahr.	M.M.	Grammes.
January	70.647	18.470	18.160	72.330	19.500	19.600	72.660	19.720	19.760
February . . .	69.617	19.210	19.000	73.297	20.070	20.200	74.674	20.070	20.970
March	70.912	18.590	18.100	74.428	20.940	20.800	72.264	19.500	19.540
April	70.275	18.250	18.100	69.887	18.020	18.100	73.603	20.310	20.420
May	62.740	14.120	14.500	65.370	15.440	15.800	67.620	16.660	17.080
June	61.147	13.340	13.700	64.275	14.480	15.300	63.725	14.660	15.270
July	60.111	12.900	13.100	64.088	14.770	15.100	63.176	14.300	14.830
August	64.162	13.690	14.100	64.504	15.020	15.400	65.262	15.390	15.750
September . . .	61.507	13.510	14.100	66.340	15.970	16.200	67.926	16.870	17.100
October	64.407	14.930	15.300	66.302	15.970	16.200	65.085	15.290	15.660
November . . .	68.775	17.290	17.100	70.631	18.470	18.600	68.288	17.080	17.300
December . . .	69.385	17.600	17.600	73.693	20.440	20.400	69.814	17.910	18.100
Mean of the year,	66.124	15.830	16.200	68.750	17.290	17.600	68.684	17.290	17.500

* A gramme is equal to 18.43 grains, (apothecaries' weight,) or 15.4340 Troy grains. A metre is equal to 39.371 inches; a cubic metre is equal to 1072.8628 cubic feet.

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Rio de Janeiro is not visited by winds of extraordinary force, such as are known in intertropical regions. A north east wind, (the land breeze) prevails from mid-night to mid-day; and a south east, (sea breeze) from mid-day to mid-night, there being an interval of calm generally preceding the commencemont of the sea-breeze. During the summer months, the sea-breeze begins later and ends earlier; and in the winter, it begins before mid-day and continues beyond mid-night. An east wind sometimes blows from daylight, and increases in force during the early part of the day. Winds from the northwest and southwest veer into the more regular winds; the first is frequently the precursor of thunder storms, which ordinarily accompany the second.

There are two seasons in Rio de Janiero, the summer or rainy season, and the winter or dry season; nevertheless, careful observation shows a meteorological disturbance and an irregularity of the weather about the period of the equinoxes, which, though not as decided as in temperate regions, bears a remarkable similarity to them. It is not uncommon to see sharp lightning, principally in the months of March, April, September and October, on the brightest tropical day with a clear atmosphere and blue sky, succeeded by a cooling of the air and change of wind; these phenomena, which characterize the changeableness of weather of temperate countries, are less perceptible here.

Alluvia of more or less recent clay, humus and sand form the soil upon which the city stands; the smaller hills are composed almost exclusively of clay, with here and there an exception of one which has a nucleus of granite, and form the artificial earth on which a greater part of the city is built. The humus forms a superficial bed in the lowest situations, and the sand borders the shores, and beneath a mixture of humus and clay constitutes the deeper beds which rest probably on granite. Different salts and many other substances would be found at greater or less depths, in certain places, if we may judge from the waters of the wells, some of which yield carbonic and hydrosulphuric acids.

Rio de Janeiro has in the environs eight springs of ferruginous waters, and the neighboring mountains supply an abundance of potable water, through two principal aqueducts, that of Carioca and of Maracana, which is poured forth at every corner through brass hydrants to supply domestic wants, and for the extinguishing of fire.

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The ancient bed of the sea, upon which the city now stands, having been transformed into a marsh by deposits from the ocean and transportation of alluvium, was afterwards converted into a plane, by earth excavated from the neighboring hills. The city, thus levelled and built, according to the taste and circumstances of individuals, without regard to what public utility required, exhibited at a later period numerous defects. Scarcely any shed or declivity for the drainage of water,—a thousand yards from the shore, Campo de Santa Anna is only 5½ feet above the level of the sea—the narrowness of the streets, bad paving, the slightly permeable nature of the soil, give the city a dirty aspect, whenever a slight rain wets the soil; waters deposited by the carelessness of the people, are retained and neglected by the police, until carried into the air by evaporation, to be respired for a long time, unless removed by the wind; all these inconveniences attended the growth of the city from its earliest days, and now cannot be remedied without great difficulty.

The climate of Rio de Janeiro cannot enjoy the reputation of being very salubrious on account of its tropical position and the nature of its locality, but it is not, however, entitled to the mortiferous character attributed to it. In the year 1851, when the population was stated at 266,466 souls, of which 152,965 were males, and 113,501 females, the mortality reached 8,713, or three per cent., which is not excessive considering the ravages of the epidemic yellow fever. With the exception of yellow fever, which, according to some, appeared for the first time in 1849, and according to others, was sensibly felt in remoter periods, Rio de Janeiro has not been attacked by any of the great epidemics which often desolate intertropical countries. Paludal fevers, of the intermittent or remittent form, sometimes complicated with ataxic or adynamic phenomena, cause the greatest part of the mortality, principally after the evaporation of the waters of the summer, ordinarily in the months of February, March and April. Next to paludal fevers come diseases attributable to suppressed perspiration, especially in July, August and September, which is due to sudden changes of temperature and humidity, manifested by inflammations of the skin and chest. The alternate action of these two morbid causes, the intermittent element and the sudden changes of temperature and humidity, is probably productive of pulmonary phthisis which in all medical statistics stands at the head of the list.

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A comparison of the present sanitary condition with that of more remote periods shows an increasing frequency in the pernicious character of intermittent fevers; and some practitioners affirm that yellow fever is an endemic modified by the condition of the atmosphere.*

Dr. Candido asserts that the dwellings of Rio de Janeiro, in a majority of instances, are better adapted to Lapland or Greenland than to the tropic region. They are erected in rows, often upon a level below that of the streets and gardens. Their dimensions are small. The roofs of tile, and low; often a wooden floor rests upon a damp soil, and constantly in a state of decay. They are badly lighted and illy ventilated.

In the houses of the opulent are spacious saldons which are reserved for the reception of guests, while the wealthy inhabitant sleeps in a close alcove, covered by mosquito nets or bars. The walls are covered with paper which retains the humidity of the air.†

According to Dr. Candido the atmosphere of Rio de Janeiro has become modified with the increase of its population and with the changes which civilization has wrought upon the habits of the people. Certain diseases inherent to the city, such as erysipelas, intermittent fevers, hyperhæmias, &c., have diminished, while phthisis, diarrhœa, scarlatina, typhoid and yellow fevers have increased in frequency and intensity. This change in the public health must be due, he says, to climate or other influence which society or civilization has brought with it.

Certain causes at all times, especially in our day, have attracted the attention of physicians and of governments, because observation has shown their influence, and science has explained their mode of action in destroying public health and in abbreviating life.

Air, water, locality and food, have been considered from the

* Joaquin José de Medeisos. Climatologia em geral, em particular, o clima do Rio de Janeiro, 1852.

† Relatorio sobre medidas de salubridade reclamadas pela cidade do Rio de Janeiro e acorea da febre amarella em particular, para subir à Augusta Presenca de S. M. O. Imperador, Pelo Dr. Francisco Paulo Candido, medico de sua magestade o imperador—primeiro secretario da camara dos Deputados, &e. Folio, Rio de Janeiro, 1854.

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time of Hippocrates as the principal receptacles or vehicles of agents destructive to public health.

Whether the atmosphere may be deteriorated by a crowd of healthy or sick persons, by effluvia arising from organic decomposition, vegetable or animal, or by the quantity of aqueous vapor, is of little import: an air impregnated by organic emanations or moisture is always prejudicial to man.

The atmosphere containing *miasms*, (organic bodies in a *state of transformation*), acts, when absorbed, by their chemical properties as poison, or communicates their state of vibration, or movement of decomposition, to the principles of the organism.

The importance of the function of respiration, through the means of which air contributes to the maintenance of life, is manifest in all living beings: plants and animals of every kind, great and small, derive a part of their aliment from the atmosphere.

A few remarks will show the importance of the air or respiration to human life, and its influence in the production of diseases. 1. It contributes considerably to alimentation. 2. It may become the vehicle or means of conveying poisonous matter into the interior of the organism.

It has been demonstrated that a man breathes 260 cubic centimetres (13 cubic inches) of air at each respiration: he breathes $260 \times 18 = 4{,}680$ cubic centimetres (234 cubic inches) in a minute: he respires $4{,}686 \times 60 = 280{,}800$ cubic centimetres (14,040 cubic inches) in an hour; and $280{,}800 \times 24 = 6{,}739$ litres, (quarts) 200 cubic centimetres (336,960 cubic inches) in a day.

Of these 6,739 litres of air breathed in 24 hours, 6 per cent. represents the volume of oxygen, which, condensed in the blood, passes to the interior of the organism; that is, 404 litres, 34 cubic centimetres of oxygen, which is equivalent to 5,822.5 grs., or 1 pound, 2 ounces and 6 drams.

A pound of a substance introduced daily into the organism cannot fail to produce a marked influence upon the equilibrium of life.

It is perhaps in this way, chiefly, says Dr. Candido, that the miasmatic air of Rio de Janeiro has developed pulmonary phthisis, which diminishes in the country, and disappears in the wild forests; among the tribes of the *Coroados*, who are nomadic or errant,

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among the *Puris* and the *Naknenuks*, who inhabit the dense forests of Parahyba, of Pomba and of Rio Doce, no instance of pulmonary phthisis has been observed.

In the second place, miasms are generally denser than the air, (and therefore occupy an inferior position and never rise but a short distance into the atmosphere), assuming that they have the same density as oxygen, admitting, too, that the atmosphere contains miasms in the same minute proportion as it holds carbonic acid gas, that is $\frac{6}{10,000}$ the weight of miasms conveyed into the organism by the respiration of 6,739 litres of air in 24 hours. According to these premises, here admitted, the volume of miasms would be 6,739 litres $\times \frac{6}{10,000} = 40,434$ litres, whose weight is $40,434 \times 1.11 = 4.5$ grammes $= 1$ dram and 8 grains. One dram and eight grains of putrid substances, such as miasms are, is a quantity, according to observations frequently repeated, more than sufficient to produce diarrhœas, typhus, algid and putrid fevers, plague, yellow fever, cholera, &c. Miasmatic absorption by the lungs alone is here calculated in its minimum, without taking into account absorption by the whole surface of the skin, or that effected through the solvent qualities of the saliva, and through the food and water we consume.

An atmosphere impregnated with miasms in the proportion of only six ten thousandths of its volume, is enough to render it pernicious and fatal to man.

Humidity is indispensable to those putrid emanations which alter the healthy condition of the air. The presence of excessive moisture in the air, by embarrassing cutaneous and pulmonary exhalation causes secretions to be returned back into the organism, where, acting as poisons to the organs they disturb the harmony of their functions and lead to the generation of morbid products; and, serving as a vehicle, provoke the evolution and diffusion of miasms in the atmosphere. But humidity by itself does not exert the same influence.

Under ordinary circumstances a man exhales from the skin and from the lungs eighteen ounces of water in 24 hours, or 37½ ounces according to Dalton. These exhalations are imbued with, and thus set free from the organism, those organic matters which had become superfluous and foreign to it. When man is in a humid atmosphere, exhalation from his body diminishes, or even

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ceases if the surrounding *hygrometric tension* is at its *maximum*; then, these superfluous or effete organic matters are retained in the blood, now become foreign substances to it, act as if they had been absorbed, and analogous disturbance occurs, if other organs, as the kidneys, intestines, liver or glandular system do not become supplementary to exhalation.

The vague expression, *influence of climate*, so constantly used may be rendered in most cases, by *presence of emanations* and by the *hygrometric* state of the atmosphere, which *emanations* and *humidities* depend upon topographical circumstances, the nature of the soil, relative position to the sun, prevailing winds, weight of the air, or accidental circumstances.

It is not solely the absolute quantity of aqueous vapor suspended in the atmosphere which determines its hygrometric state or *humidity*, but without the *tension* of these vapors, this tension depending upon the quantity of vapors suspended, and upon the *temperature* and on atmospheric pressure; circumstances which vary every hour, every day and every month. Wherever these or any one of these circumstances vary, on a great scale in the vast extent of the atmosphere, or on a small scale in the limited space of a city, or in a dwelling, the hygrometric state becomes modified in its respective extent. The air becomes more humid wherever evaporation is augmented, where the temperature is reduced, where pressure is increased, (supposing the air to be saturated). Where the circulation of the air is embarrassed, in a city, or in the interior of a dwelling, it becomes humid, because the accumulated vapors reach the maximum of *tension*, and are condensed into humidity; in a city or in a house where the temperature is lowered, the accumulated vapors reach the maximum of tension and are condensed in rain or in humidity; and the same result follows by augmenting the pressure or weight of the atmosphere.

Dr. Candido maintains that, (after dilgent study of the most enlightened authors on the subject, and direct experience), epidemics cannot exist without miasms or their equivalents; that miasms absorbed either poison us by their chemical properties, or communicate their state of decomposition to the substance of our organs, particularly to the blood; that the same miasms which pre-existing in a population, produce yellow fever under the in-

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fluence of a certain *excitant*, would produce cholera, plague, or typhus, &c., under the action of *other* excitants respectively; that, in fine, without the intervention of other excitants than chemical affinities set in motion by local circumstances, emanations from any place can be *spontaneously developed* into the miasms of some of these scourges.

According to these premises—some of them directly demonstrated by eminent observers, especially by English physicians, other corollaries consequent upon the advances of organic chemistry, none of which have been contradicted, but always corroborated by facts here observed—we may set up a theory, that the true and radical means of preventing yellow fever, cholera, plague, and all pestilential epidemics, consists in preventing the formation of miasms and of humidity, and in promoting other conditions which maintain public health; because, it is miasms, humidity, water, improper food, insalubrious dwellings, bad habits, &c., which accumulate in the organism those elements which form the combustible of epidemics.

Dr. Candido repeats the assertion that the considerations upon which we must base our preservative measures against epidemics are, 1st, without miasms and humidity, or their equivalents, epidemics cannot exist; 2d, that the presence of pestiferous individuals and objects have sometimes been an *excitant*, the incendiary torch of epidemics, in places *where miasms or their equivalents* pre-existed. In support of these positions he gives some examples:—

As to the first—pre-existence of miasms and humidity—Sierra Leon, Gibraltar, Barcelona, Havana, Demerara, Barbadoes, New Orleans, when treating of yellow fever; the banks of the Ganges, the coasts of Coromandel, of Malabar, and the banks of the Indus, in the history of cholera; the delta of the Nile, Syria, Constantinople, Marseilles, when we speak of plague, offering as they do a vast field for investigation, confirm the cause of these epidemics; and exclude from their causes the circumstances of variety of races, habits, religion, food, latitude, longitude, &c., while the constant coefficients of epidemics—miasms and humidity—exist in those places. Cholera pauses before great elevations; the plague does not pass the cataracts of the Nile; yellow fever does not leave the coast; in Gibraltar it did not pass the Neutral

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Ground ; in the West Indies, slight elevations served to limit its progress ; in Rio de Janeiro, a height of 400 feet and a distance of two leagues, were its insurmountable barriers, &c. ; now, all these limits observed by the cholera, the plague, and yellow fever, may be regarded as the line of diminution and disappearance of miasms and humidity or their equivalents.

As to the 2d—An excitant or ferment developing epidemics.—The Island of Ascension, of Boa Vista, Barcelona itself, lighted up by the Bann, the Eclair, and by the Grand Turc, which, visiting those points, caused the appearance of yellow fever ; on the coast of Brazil, Bahia, Pernambuco, Rio de Janeiro, Ceará, from St. Catherine's to Parà, at the two extremities of the empire, a distance of 25 degrees, it may be said, were consecutively affected by yellow fever, the outbreak being coincident with the arrival in those cities, respectively, of the slave ship Brazil from New Orleans, or rather Havana ; of the Alcion, from Bahia, after that place was affected, of the barque Navarre from New Orleans, and many others from Pernambuco, Bahia, *Africa*, when those places were suffering from yellow fever,—the Margaret Hopping, the national vessel Carioca, proceeding from Rio, and Pernambuco already afflicted, all arriving in time to have ascribed to them the paternity of the yellow fever, constitute irrefutable testimony that these vessels carried an *excitant* which developed the fever in those places : the unprejudiced mind refuses to admit that so many coincident facts could be without any relation between the arrival of the vessels and the explosions of fever in places and under circumstances so different ; and to regard them as merely accidental, on the extended coast of Brazil, without the least relation to the epidemic, is, in the opinion of Dr. Candido, a gross absurdity—it is to attempt to subject facts to a fixed idea —to influences merely local.

In the Lying-in Hospital at Vienna, it was observed that of 3000 women delivered, 500 were annually affected with epidemic *puerperal typhus*,—a frightful proportion of one in six. The intelligent physician of the establishment soon recognised that the pestilential *excitant*, which provoked the epidemic, was brought by the students, who, frequenting the anatomical theatres, came with their clothes saturated with putrid exhalations ; it was remarked that the service and contact of the students who came

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from contending with adynamic fevers, in other wards and amphitheatres, was especially fatal to the parturients. Measures were taken to exclude these ambulant foci of infection from the maternity wards, and the epidemic disappeared.

If the exhalations with which the clothes of the students were saturated exercised an influence in another manner than as an *excitant*, which set in motion the decomposable matter—equivalent to miasms—which chemistry has shown to exist in the blood of parturient females; if the action was other than an excitant or ferment, if it was simply a poison, the bearers of these exhalations, the students, should have been the first to be poisoned; which did not happen, because they were not *parturient females*, that is, their blood did not contain fermentable matter, or the equivalent of miasms.

In the opinion of Dr. Candido, the causes of all epidemics of cholera, plague, yellow fever and typhus which have devastated parts of the world, may be stated in the following two propositions:—

"1. An atmosphere vitiated by miasms and humidity; occasionally or very often other causes, different in appearance, but which produce in the organism analogous or identical effects to those which proceed from miasms, always appear as constant co-efficients of epidemics, as the *materia prima* of these inflictions.

"2. An *excitant*, a *ferment* or pestilential focus, brought from a short or a great distance, provoking devastating epidemics from miasms, or products of other causes, but *equivalent* to miasms accumulated in the organism, is an incontestable fact, and which places in harmony the contradictory observations which constitute the chaos in the history of pestilential epidemics."

What were the causes of yellow fever in Rio Janeiro?

For a century prior to the year 1850, yellow fever had not appeared in Brazil, at least not as an epidemic.

Dr. Candido, in his report dated May 1853, says that heat is not a direct cause of yellow fever; that it is not most common in the *isothermic zone* (80°.6 F. to 86° F.), that is, in the equator of heat: the mean temperature of Sierra Leon is 86° F. Places where yellow fever most prevails, New Orleans with a mean temperature of 67°.72 F., Havana 77° F., are inferior in

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temperature to Parà, (where it is 81.5° F.) and other localities in which the disease is more benign. In Rio de Janeiro it was not, during the highest temperature, 79.34° F. to 81.5° F. in the months of January and February, that its prevalence was greatest. In those months the mean (the maximum of the year) was less in 1852 than in 1851, and as the whole epidemic was incomparably less intense in 1851 than in 1852, the epidemic intensity was in an inverse ratio to temperature.

The action of heat in the production of yellow fever is secondary:—

1. By promoting the decomposition of organic substances and the evolution of miasms.

2. By facilitating life in myriads of insects and other animals, as well as in plants, all of which become material for organic decomposition.

3. When an individual is saturated with miasms, by respiring a pestilential atmosphere, *insolation* will act directly as a determining cause which agitates and disorders, setting up fermentation in the liquids of the economy, which closes in black vomit; yet, heat is neither an exclusive nor an essential cause of yellow fever.

Humidity.—The hygrometric column, the general mortality, and the mortality from yellow fever fluctuate together, and are affected by the same *co-efficient*, as may be seen by reference to tables. There can be no doubt about the influence of humidity as here demonstrated; it renders recourse to other arguments and foreign labors unnecessary.

On the approach of autumn, from February to March, while the earth, still heated by the summer's sun, exhales vapors and miasms, these are condensed by the action of the cold air which flows from the south, humidity is then very great, as shown in the meteorological tables (above given): the effect increases in proportion to the augmentation of the cause; that is, the general mortality and that from yellow fever grow with increased humidity. The influence of humidity is incontestable; it is demonstrated by the observations made in the city of Rio de Janeiro.

Atmospheric pressure.—A diminution of the weight of the atmosphere, (which takes place in the same months in which meteorological observations exhibit an increased humidity, and which

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does not coincide with the maximum temperature), is a powerful cause of augmentation of humidity and miasms whose exhalation is always in inverse proportion to atmospheric pressure; in this respect meteorological observations are in remarkable harmony with the causes of yellow fever and other diseases which afflict the capital. It is clearly seen that a diminution of atmospheric pressure coincides with an increase of the epidemic and the mortality.

Meteorological observations teaches us that *humidity* accompanies *pari passu* the two mortalities; that diminution of atmospheric pressure (which facilitates the evolution of miasms) follows the same law; that a maximum temperature is not the most prejudicial to public health, and that a minimum is the most salutary for Rio de Janeiro.

One must shut his eyes to these facts to deny the influence which *temperature*, the *hygrometric state*, and *atmospheric pressure*, exercise on public health, and particularly on the production of yellow fever.

In his report, dated May, 1854, Dr. Candido says:—"I find in my notes, that in 1836, two American sailors were admitted into the Infirmary under my charge, in the Santa Casa da Misericordia, who were *yellow with great prostration* after delirium, &c. One died on the third day, but *post mortem* examination revealed no lesion except a serosity, which was notably yellow, in the pericardium, in the abnormal cavity and in the cerebral ventricles; I have no doubt now that those cases were yellow fever.

Dr. Lallemant says that scarcely had yellow fever appeared in his clinic when his colleagues declared, "This is not yellow fever: the disease does not reach Rio de Janeiro!" "But now that its existence in the city cannot be denied, each one asks, 'How is it possible that this disease should have penetrated our capital?'" But Dr. Lallemant, on the contrary, asks, "How is it possible that yellow fever should not have been developed in Rio de Janeiro?"

"My friend and colleague Dr. Valladão tells me," continues Dr. Candido, "that, some years ago, he observed a patient, a Prussian he thinks, whom he suspected was affected with yellow fever, but now he would denominate it *hæmorrhagic fever*.

"In 1823 an English sloop of war, the Bann, proceeding from Sierra Leon in March, infected the island of Ascension; in like manner another

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vessel of war, the Driver, arriving from Africa with her crew in perfect health, was infected at the island of Ascension after communication with the Bann; both vessels sailed for Bahia, but in spite of their visit the epidemic did not spread in that city.

"Some years preceding the present date, both prior to and after the discovery of gold in California, vessels and passengers from the United States, New Orleans, &c., from Havana, from Sierra Leon and other places on the coast of Africa, were received without precaution or fear of yellow fever, even when it prevailed in the ports from which they cleared.

"Upon the whole, in spite of the doubtful cases, in spite of the well ascertained case of the Bann and of the frequent reception of persons arriving from foci of yellow fever, the disease did not become epidemic in any part of Brazil.

"Pure contagion, then, was not the exclusive cause of the epidemic in 1849—1850; some other cause was applied in those climateric years which rendered the *febrile element* active.

"The most recent and important researches relative to epidemics and pestilential diseases, and the light of organic chemistry, show that these scourges are the natural consequence of causes extrinsic to the organism—meteorological, miasmatic or others—which disturb the physiological functions, whether they act in the organism, or where they encounter in it the materials or *intrinsic* causes which under the influence of *extrinsic* causes develope fatal products. Let us examine these *extrinsic* and *intrinsic* causes, and their mode of action at Rio de Janeiro in the year 1850."

Causes extrinsic to the organism. For many years prior to 1850, there were no regular or consecutive meteorological observations; but it is a common remark among the inhabitants of Rio de Janeiro that the regular winds (land and sea breeze), the thunder-showers, almost invariable in summer, the clearness of the atmosphere after the long prevalence of the winter winds from south and southwest, have been very much modified for some years.* During the last months of 1849 and the com-

* Dr. Lallemant states that probably as a consequence of this meteorological change, an epidemic occurred about 1846. Every body fell sick without apparent cause, but as scarcely one (at any rate very few) died, both the profession and the public gave it little consideration. It was called the Polka Fever, because it was as common as the monomania for the polka dance.

The patients presented themselves with headache, the conjunctivæ injected, and general pains, principally in the loins, white furred tongue and slight pains in the hypochondria; in some cases, irritation of the stomach with bilious vomitings, &c. The disease prevailed so extensively among seamen, that business among the shipping in port was almost entirely suspended. The same fever appeared again in January, 1848, and Dr. Lallemant states that he then suggested to a friend, that under favorable circumstances for incubation, the disease might become yellow fever.

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mencement of 1850, on the eve of the epidemic, the sun appeared red, of the color of blood, and might be gazed at with impunity; and the moon wore the same aspect. The burning winds from the north, almost to the exclusion of the sea breeze from the southeast, prevailed during this period, and the impression is that for some years this breeze had become feeble. Meteorological observations of subsequent years show that the explosion and culmination of the epidemic occurred in the months of the greatest humidity, and consequently, when the atmosphere contained the greatest quantity of miasms and emanations. Mortality increased in proportion to the increase of humidity and diminution of atmospheric pressure.

These phenomena show that anteriorly to, upon the eve of, and during the epidemic, great quantities of aqueous vapor and carboniferous emanations were suspended in the atmosphere of the city. Now, these vapors, emanations and gases being suspended in the atmosphere, porous bodies enveloped in it were necessarily impregnated, that is, they absorbed these gases and emanations; they entered into the structure of the wood employed in buildings, floors, partitions, movables, furniture, &c., and certainly penetrated the organism of man, through whose lungs passed daily 16 pounds of this atmosphere. Every thing submerged in the same medium must have been alike impregnated and *saturated* with these vapors, emanations or gases.

To these vaporous masses, which, when suspended in the atmosphere, refract the luminous rays, are added emanations from organic substances of many kinds, such as are found in the filth and offal of a city, in stagnant pools, &c.

Joined to these carboniferous vapors, and like them absorbed by various structures and by the pores of the body, these organic emanations accumulate within us, and kept by porous bodies, remain in reserve until called forth by a humid air, when they escape transformed or developed into pestilential miasms.

This retention or preservation of gases and miasms is undeniable. Coal absorbs 90 times its volume of ammoniacal gas; old wood, *humus*, organic matters in like manner, when dry, absorb gases and exhale them when exposed to humidity; spontaneous combustion of coal is due to the enormous quantity of hydrogen which charcoal retains when absorbed; a putrid or ammoniacal

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odor is exhaled from old houses when closed, from dirty places, from depots of timber, from the earth itself, when the air becomes damp. Other examples might be adduced to show the absorption of gases by porous substances, and their exhalation by the pressure of humidity.

Nor can the infection of the organism by air be denied. Daily 1,739 litres of air, equal to more than 16 pounds, pass through the human lungs. Now this air being impregnated with organic emanations in the proportion of one part in a thousand, it carries into the organism, where a greater part remains, six drams (360 grains) of organic emanations. Such is a diagram of the impregnation of an organism living in an atmosphere contaminated by miasms in the proportion of one part in a thousand.

No one doubts that the atmosphere, habitations and all organized beings were impregnated by gaseous exhalations or miasms when the epidemic of 1850 broke out.

In the height of the epidemic, in March, 1850, the atmosphere was washed by copious and long continued rains, and seemingly appeared to be purified when the skies were clear for a short time. It was supposed that the scourge would abate on this account; but on the contrary, the epidemic increased with the rains. "Noticing, then, the increase of disease when the air ought to have become pure, the inference was that the cause of the epidemic was not, at least not exclusively, in contact with the atmosph re; the contagionists and infectionists were, in the opinion of Dr. Candido, wrong. The smells and ammoniacal odor which became sensible in the dwellings of misery and generally in the afflicted districts, the sickening of a great number of individuals in the same house, as from accidental circumstances, when the heavy rains made those places damp, &c., led to the belief that the rain, which washed the atmosphere externally, rendered the air within dwellings damp, and that the action of this humidity was to attract and set at liberty the miasms, previously absorbed by various materials in the houses, and in this manner, the inhabitants who breathed the air in them, became infected."

With this humidity, by its action, another species or equivalent of miasms appeared as a substitute where there was none, and where there was, to combine in the production of fever. *A diminution of cutaneous perspiration and pulmonary exhalation,*

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which, restraining the exit of matters now become foreign in the economy, determined their retention in the torrent of the circulation, where their influence was the same as if an equal quantity had been respired. Collard de Martigny has shown by analysis that the air *expired* contains $\frac{3}{1000}$ of putrescent organic matters, which are constituted of *albumenoide;* other analogous observations go to establish beyond a doubt that a suppression of these two functions, or very great abatement in their activity, infects the economy exactly in the same manner as a miasmatic atmosphere does. The quantity of these febrile materials retained in the system by a cessation of perspiration, may be estimated, if we bear in mind that a man, under ordinary circumstances, exhales eighteen ounces of aqueous vapor, charged with these *albumenoid* principles, in twenty-four hours. When pulmonary and cutaneous transpiration cease, if the kidneys (which act often as in reserve to relieve the economy of supplementary secretions), do not promptly give exit to those products which have become foreign, and which should have passed off by the skin and lungs, the system will retain them, and would be infected just as if miasms had been directly breathed.

With these incontrovertible facts in view, it is easy to understand that, the organism being saturated with miasms, either directly by infection, or indirectly by the retention of foreign matters, the individual who respires for some time a miasmatic atmosphere (which *excites* decomposition) carries with him, in his system, the *excitant:* as soon as cutaneous and pulmonary exhalations cease or diminish, and the supplemental or vicarious secretions of the kidneys fail to give exit to the miasms breathed or to their equivalents retained, and to the products of decomposition arising now from the action of the *excitant* on the materials of the economy, zymotic disorder or fever will necessarily appear. It is for this reason that persons who left the infected atmosphere of the city of Rio de Janeiro, or coming to it to be impregnated with miasms in 1850, fell victims to the fever in Tijuca, in Petropolis and other places, beyond the focus of the epidemic, which was not propagated in those points, because the *general excitant for its diffusion*, a miasmatic atmosphere, was wanting.

It was observed in 1850, that the unfortunate who, saturated with the infected air in the focus of the epidemic, changed to a

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cooler place, as the neighboring mountains, or a more humid and miasmatic situation as to old, closed-up houses, thus disturbing the equilibrium established between the infection of the system and the depurating exhalations in a high temperature, almost infallibly became victims of yellow fever. In damp, badly-ventilated houses; in the filthy little rooms of sailor boarding-houses, near the bay; in all places in which emanations or miasms were absorbed and preserved in porous substances, it broke forth with increased energy in damp weather.

In general, new ships, and especially those on their first voyage, were least affected; old ships, particularly those whose cargoes consisted of putrescent organic, or porous substances, were most gravely affected. These facts show the influence which miasms exercised in the production of yellow fever, and agree with observations by others on porous mineral coals.

Between the 1st of April, 1853, and 31st of March, 1854, one hundred and thirty-five vessels loaded with coal, anchored in this port; of these 76 suffered from yellow fever and 59 escaped. Of the 59 which did not suffer, a third only, more or less, anchored at the health anchorage. Of the 76 which suffered, nearly one-half anchored near the quays.

The angle of the bay which constitutes the *health-anchorage* is a receptacle of the filth which flows there from the neighboring shores; the visiting steamer which boarded vessels anchored there very often made her way through sea-weed and filth: on board of her it was often noticed, in consequence of the smell, that the air made stagnant in this corner by the neighboring declivities, was converted into a true *hygrometer*. From the position of the headlands humidity always prevails in this place.

The natural inference is that, more than in any other anchorage, the coal here emitted its miasms under the action of humidity, and that, invigorated by the miasms of this region, those which were emitted by the coal became productive of yellow fever, a property which the miasms from the coal do not in themselves possess, and they do not produce yellow fever in other cities where these same ships have been.

It results from these complex observations; 1st, that old miasms, or those retained long in porous substances or recently closed places, pass through the phases of decomposition which

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communicates to them different properties, and augments generally their deleterious qualities; 2d, and that miasms are always the primary matter, the indispensable condition of the epidemic.

Let us now examine the question, if yellow fever is caused by miasms, as miasms have long existed in this city, how is it that yellow fever has not existed ever since the existence of miasms in Rio de Janeiro and other places? This is a favorite objection of those who will not take the trouble to visit and examine the places most affected, the holds of ships, sailor boarding-houses, &c., where, it is observed, that fever is always in relation to the miasms. This question does not belong exclusively to Rio de Janeiro; it, as well as its solution, applies to all countries visited by epidemic yellow fever, and constitutes a cardinal point in the history of this scourge.

Those who have discussed this question (contagionists and infectionists) have fallen into an error by assuming that all miasms are alike. From this mistake arose the theory of *concentration* under which Tomassini was content to account for the yellow fever of Leghorn, in 1804, as by an infectionist.

Now, miasms are not always the same, whether evolved from different animals or vegetables, or from the same animals and vegetables. Many circumstances cause these products of organic decomposition to vary; the principles which cause them to vary are the *excitants* of decomposition and the meteorological conditions, besides the diversity of substances from which they proceed. For example:

Air contained in an enclosure where there is wood in state of eremacausis, or decay, yields *carbonic acid gas* exclusively; if a sufficient quantity of hydrogen gas be added to this air water is found exclusively, but not an atom of carbonic acid. This was demonstrated by De Saussure.

Liebig affirms that animal matters in a state of decomposition yielded different products, according to meteorological conditions; they give ammonia in cold climates, and nitric acid within the tropics.

The emanations which produce the aromas, from the oil of the seeds of Sambucus nigra, oil of turpentine, oil of lemon, different emanations from each one, as also in general, the emanations which produce the aroma of flowers, result from the oxidation which

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these oils undergo. Geiger has demonstrated in like manner that the peculiar smell of musk results from its decomposition or putrefaction, that is, from emanations which its putrescent decomposition produces. The products of all these decompositions are therefore different; no one regards them as identical.

Liebig states that a solution of cyanogen, before reaching its ultimate and definite transformation, passes successively through eight changes or different products.

The emanations from marshes are evidently different from those which arise from a graveyard: analysis confirms what the evidence of the senses announces.

The juice of the grape fermenting, that is, decomposing slowly, yields wine which consists of alcohol, carbonic acid, ethers, &c., but later, by placing it under another condition, all the alcohol is converted into vinegar. The products of decomposition vary with the phases of this decomposition.

No one can confound the smell nor the pathological effects of drying rose leaves, and the decomposition of thousands of plants, with the smell and pathological effects of a dissecting-room or of a grave.

The matters whence they emanate, the circumstances which influence all these exhalations and gases, are different; how is it possible to assert that such emanations are, in all cases, the same, more or less concentrated?

In respect to these organic compositions the lessons of analysis are of the greatest importance; because they show that a most insignificant circumstance will entirely vary an organic product: for example, the very same elements arranged in a line, in a circle, or in a triangle, may be sufficient to form of them different compositions, innocent, agreeable, or poisonous, or at any rate three different substances constituted of the same elements: thus;

Essence of Cinnamon.	Carbon	79.52
	Hydrogen	6.40
	Oxygen	14.06
Essence of Bitter Almonds.	Carbon	79.66
	Hydrogen	5.56
	Oxygen	14.88
Essence of Prunus padus.	Carbon	79.35
	Hydrogen	5.68
	Oxygen	14.09

are composed of the same elements, and very nearly in the same

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proportions, but they are very different in their chemical, physical and therapeutic properties. Sugar, gum and cotton are in a like manner composed of the same elements, nearly in the same proportions; but no one makes clothes of gum, nor pastes paper with sugar, nor sweetens his coffee with cotton.

Dr. Candido, to show the difference of miasms emanating from different substances, made the following experiments:

1. By means of a mixture of ice and salt he condensed, on the surface of a glass sphere the emanations from the hall of the school of medicine when filled with students. The liquid obtained gave the characteristic odor of the *human halitus*. This liquid was introduced into Volta's eudiometer which filled 1-10th of its capacity; the eudiometer being closed, gently warmed, the remaining 9-10ths of its capacity (filled with air) were saturated by emanations from the liquid, which was manifest by rapidly opening and closing the superior opening of the instrument: for 24 hours, and even for two days, the same *smell of halitus* remained. He withdrew the condensed liquid and left in the instrument only the air saturated with emanations; the smell of halitus remained unchanged. Carefully avoiding the loss of air, he introduced into the eudiometer 1-10th of its volume of lime water, then exposed the instrument to the direct rays of the sun, and afterwards concentrated them by means of a lens; then submerging the eudiometer in water and opening the lower valve, the liquid did not rise, showing there had been no condensation of oxygen into water nor into carbonic acid; by opening the upper valve, the smell of human halitus was still perceived. Recent pulmonary exhalations are not easily decomposed, not even under the action of the sun's rays and of lime in contact with air.

2d. Afterwards, but at the same period, the eudiometer was emptied of distilled water in an atmosphere super-saturated with the foul, putrid emanations from a sewer; the eudiometer filled with this air gave the odor of the filthy sewer which infects the city. Lime water equal to 1-10th of its capacity was passed into the eudiometer, and the instrument exposed for two minutes to the rays of the sun, and gently agitated: the lime water became turbid. Being submerged and the lower valve opened, the water rose nearly 1-12th of the capacity of the eudiometer, and moreover, it was found, on opening the superior valve the

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putrid odor had entirely disappeared. If it be contended that the rise of the water in the glass was due exclusively to carbonic acid which must have contained the putrid exhalations, the combustion of the miasms which disappeared must be admitted; then the disagreeable, putrid odor disappeared *instantaneously* and *completely;* a glass tube moistened with chlorohydric acid was surrounded by white vapors when plunged into these exhalations; the formation or pre-existence of ammonia is thus established. Without lime water, and employing only sun-light concentrated by a strong lens, the result was the same at the end of four minutes. Putrid emanations from ordure are changed into carbonic acid, ammonia, and water when exposed to the sun's rays in contact with the air particularly when lime is present.

These emanations or miasms are different then from those exhaled from the lungs of animals.

The diversity of physiological emanations even from the human species is so noticeable, so characteristic, says Dr. Candido, that whoever passes through Brazilian forests may recognize by the smell alone, that is by emanations, the places of sojourn of indigenous tribes, and these physiological exhalations persist many days; though there are no porous dwellings nor clothes to retain them, they attach themselves to the humus, to trees, to dry leaves, &c. Who cannot recognize the odor of the slave ship, even for weeks after her cargo has been disembarked?

It being established that the nature of miasms is varied by many different causes, it is not wonderful that, not having, in previous epochs, evolved the miasms proper to produce yellow-fever, others were happily evolved which produced other diseases; this epidemic, (yellow fever,) would not appear, except when the meteorology, or the excitants of the formation of miasms, caused to appear those which are productive of the disease.

Different excitants, which are only meteorological conditions, cause the products of decomposition or miasms to vary, and also to give origin to different pestilential diseases—these *excitants* very often do not contribute in a single material atom in the formations of miasms; they sometimes act by their pressure alone, communicating their state of vibration; at other times

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they enter into combination with substances, and determine their decomposition.

In the experiment of De Saussure, the rotten wood caused the formation of water, by communicating its state of vibration to the oxygen and hydrogen which, without this vibration do not combine at the ordinary temperature: but the rotten wood contributes nothing to the formation of water; it serves only as an *excitant*.

The ferment of bread or of beer put in a solution of cane sugar communicates its vibration to the elements of the sugar, and causes them to be converted into alcohol and carbonic acid; but not an atom of the ferment enters into the products developed in the sugar.

The same solution of cane sugar, which forms alcohol and carbonic acid under the action of ferment, when boiled with a few drops of sulphuric acid is converted into *glucose* or grape sugar.

The same cane sugar by dry distillation is converted into carbonic acid, carburetted hydrogen, carbonic oxide, empyreumatic oil, into vinegar, &c.

In contact with pus, sugar is converted into lactic, butyric acids, &c.

On the other hand rags, or old fabrics of linen, cotton and wool boiled with nitric acid, yield grape sugar or glucose.

Starch mixed with saliva is converted, in a minute, into grape sugar or glucose; the sweet taste which follows the chewing of bread or sea-biscuit in a short time is owing to the saccharine transformation of the starch contained in wheat by the saliva.

But old rags, starch, &c., burned or distilled, that is, subjected to other excitants, yield products which are very different from grape sugar.

Hence, Dr. Cardido infers that *different excitants* produce in organic substances different products. The first products of organic decomposition vary according to the organic substances decomposed, and according to the *excitants* of this decomposition; so that it may happen, on account of this very variety, that the same product may *accidentally* result from different substances: how, from that which is not seen, nor felt, nor susceptible of experimental demonstration, can we draw a conclusion

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that miasms are always the same, varying only in degree of concentration!

But aside from experimental demonstration, who would be bold enough to maintain that the *excitant* of small-pox, measles, yellow fever, hooping cough, puerperal typhus, &c., maladies which are propagated by emanations; who will assert, that the cause of all these diseases is the same, because they all arise from organic decomposition! It would be better to confound, says Dr. Candido, the aroma of the rose with that of the onion, or that of coffee with tar.

The decomposition of organic bodies, called *eremacausis*, *fermentation* and *putrefaction*, by which, after being deprived of life, they are separated into gaseous products, is due to a loss of the equilibrium in which their molecules were held, and this loss of equilibrium may be occasioned, either by meteorological conditions (heat, humidity, electricity, &c.,) or by the intervention of another body, whose state of molecular vibration is communicated, and, by its presence, destroys this equilibrium: or by the chemical affinities of the elements which constitute their immediate principles: the equilibrium once destroyed and the molecules set in disorder, they then freely obey their chemical affinities and form products which vary for each body. Let us not deceive ourselves, for, in living bodies, it is not the chemical affinities of the different immediate principles nor the vital forces, which ordinarily, without great meteorological influences, spread disorder in the living economy, disturbing the equilibrium in the composition of its fluids and solids: it is almost always, at least in great epidemics, the movement of *vibration*, which, through the means of miasms or other equivalent, is carried to the interior of the organism by respiration, by cutaneous absorption, by diet, &c. The sausages or smoked meats of Wurtemburg, referred to by Liebig, afford irrefragable proof of this *vibratory* action.

This assertion will seem strange to him only who is not aware of the energy with which fermentation and putrefaction proceed in deoxidation and other chemical phenomena by a mere vibration communicated to the principles which are fermenting.

The fact of an excitant provoking decompositions in the or-

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ganism, is confirmed by many observations recorded in the annals of medicine. Take the following examples:

1. A wound from the point of a scalpel used in dissecting a decomposing corpse excites a malignant fever, phlegmons, and suppurations, in *organs* often very distant from the point of injury.

2. Blood, cerebral matter, bile, &c., when *corrupt*, produce vomiting, algid fever, typhus and death when applied to the skin deprived of its epidermis, or to a wound. (Majendie.)

3. The smoked meats of Wurtemburg sometimes produce emaciation and fatal decline without the least inflammatory indication. (Liebig.)

4. A small portion of putrid animal matter injected into the veins of a sentenced criminal, has produced typhus and death.

5. A solution of sugar and ferment injected into the veins of an animal enters into fermentation, which is propagated through the vascular system, and produces *typhoid* fever. (Claude Bernard.)

6. Corrupt water consumed on board of ship is often a cause of erysipelas, diarrhœa, typhus, &c.

7. In Saulier, (France,) in the year 1773, in the Mother Church of Santo Antonio, there accidentally met 120 children for their first communion, and other persons; depositing a heavy corpse in its resting place, a coffin which had been buried thirty-three days before, was broken, from which was diffused through the church a horribly fœtid stench. The 120 children, the curate, the grave digger and all sickened of a putrid fever with hæmorrhage (like the yellow fever), eruption, &c. (Walker.)

In all these cases, the cause (miasm) was the exciting medium of decomposition in the liquids or solids of the organism. In proportion as these decompositions are analogous to those which occur in fermentation and putrefaction, so are the products analogous: in fact, in these cases, as in pestilential epidemics, the inseparable companion of putrefaction, ammonia, appears in the sweat, in the saliva, in the urine, in the atmosphere respired by the sick, and in the form of sulphate in the evacuations. (Liebig).

Meteorological conditions may determine the formation of

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miasms productive of yellow fever from the filth and other sources of exhalations in a city.

But appropriate or peculiar excitants, as a ship laden with organic substances which have received the impulse of decomposition in the port of departure, impregnating the vessel and her crew with miasms, may also, undergoing this decomposition, convert into miasms of yellow fever the pre-existing miasms and those arising from foci of filth in the presence of the excitant. But the *excitant* coming from without will be inoperative if it does not meet with miasms or foci of miasms, and besides this, the coincidence with certain meteorological conditions, heat, humidity chiefly, which favor their transforming action, a coincidence which, not always occurring, the invasion of epidemics is more rare, even where there are miasms.

Dr. Candido thinks he has demonstrated that there was in Rio de Janeiro a sufficient quantity of miasms to serve as the *materia prima* of the epidemic of 1850; but miasms having been here for a long time, and in analogous meteorological circumstances, which, doubtlessly, should have produced it in preceding years, without we conclude that the epidemic yellow fever should not appear without some *excitant, ferment,* or what they may please to call it, intervened in the climateric year of 1850, to transform these pre-existing miasms or their *equivalents,* into miasms productive of yellow fever.

The explosions of yellow fever in the capitals of the Provinces of Brazil, always coinciding with the arrival of vessels from places affected with it, is opposed to the principle laid down by Dr. Candido, and the corroborating facts, besides those observed here, are referred to in other parts of the world where, without preconceived notions, the determining cause of yellow fever has been investigated, though not referred to as proof of the principle he sustains, namely—that an excitant or ferment coming from without is the incendiary torch which often lights up the epidemic.

In fact, the fever appeared in Bahia, Pernambuco, Ceará, Pará, Rio de Janeiro and St. Catherines, only after the arrival, on their respective coasts, of the North American brig Brazil, employed in the slave trade; the French ship *Alcion* proceeding from Bahia already attacked; the Danish brig Pollux, and the

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Brazillian ship Carioca, proceeding from affected ports; the American barque Navarre, the Brazillian war steamer Affonso, the Portuguese corvette D. Joao I., the English packet Petrel, all proceeding from Bahia while the fever prevailed, and the American brig Margaret Hopping, &c.

The American barque Hercules arrived in December, 1849, directly from Philadelphia; some of her sailors died of yellow fever in the Misericordia Hospital.

As in the cases of the English sloop of war Bann, in the island of Ascension, in 1828; the corvette Le Dauphin in Cadiz, in 1800; the ships Grand Turc and Taille Pierre, in Barcelona in 1821; the Swedish ship Dygden, in Gibraltar in 1828; the English steamer Eclair, at the island of Boa Vista in 1845, it was always observed in the different ports of Brazil, that the epidemic proceeded from a ship, or from a small number of houses previously affected, from which the fever was propagated in a few days.

In Bahia, the disease was propagated from the brig Brazil to the whole city. The Brazil was direct from New Orleans; she had cases of yellow fever on board, and arrived (December 1849) at the time or just before the explosion of the fever. In Pernambuco it began in the Alcion, and extended to the ships Constantine and Josephine, lying close to her, and thence to the English infirmary at Boa Vista, and Recife, and afterwards the fever spread through the city. At Pará it spread from two vessels above named. At St. Catherines the disease spread from the Margaret Hopping.

Many persons in Rio de Janeiro believed that the contagion of yellow fever had been imported from ports of the United States, New Orleans and Philadelphia. Dr. E. D. Fenner, of New Orleans, in his valuable report of the epidemics of Louisiana, Mississippi, &c., published in "The Transactions of the American Medical Association," vol. vii. 1854, says, page 449, "It was currently reported, during the summer [1853], that this fever was brought to us by vessels from Rio de Janeiro," a report shown to be unfounded. The testimony favors the idea that, both at Rio de Janeiro and New Orleans, the epidemic was of local origin.

From the work of Dr. Lallemant, already cited, we learn that

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on the 18th December 1849, the war steamer Dom Affonso arrived at Rio de Janeiro, announcing that yellow fever had broken out at Bahia, and that from thirty to forty sickened daily; that in Brazilians and acclimated foreigners, the disease was mild, but very fatal among the recently arrived.

The next day the Portuguese corvette Dom João I., arrived from the same port, having on board 209 soldiers, besides her regular crew. Five persons had sickened on the passage, of whom two died. The corvette was put in quarantine.

On the 24th December, the British packet Petrel arrived from England, via Pernambuco and Bahia, with some sick on board, of whom two died at the entrance of the port.

But no one of these vessels nor patients exercised any influence, at least apparently, on the state of health of Rio de Janeiro. "The evil was latent among us before we received the first news of the existence of the epidemic at Bahia."

The American barque Navarre, Capt. Little, with a crew of nine men, left Bahia in the latter part of November, and after a passage of 12 days arrived at Rio de Janeiro on the 3d of December. As nothing had been then heard of the epidemic at Bahia, she was admitted to free pratique; the captain sold the vessel and the crew dispersed. Some of these men lodged in Franck's American Boarding house in the street of Misericordia.

"When I made my visit on the 28th December to the infirmary for strangers, in the Santa Casa da Misericordia, my attention was especially directed to two new patients, whose disease appeared to me peculiar. The most prominent symptoms were a yellow color of the conjunctiva and skin, vomiting of dark colored liquid, hiccough, suppression of urine; in one hæmorrhage from the mouth and anus, delirium," &c. Those two patients were:—

1. Enquist, a lad from Finland, who had arrived direct fourteen days before in the Russian brig Wolga.

2. Anderson, a Swede, entered the Santa Casa under an order of the American Consul; sojourned in Franck's tavern.

The first patient died the following night, and the second forty hours afterwards. On the 30th December Dr. Lallemant pronounced these cases to be yellow fever, but his opinion was not

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concurred in. But on the 4th January, 1850, another case presented.

3. Alexander Wilson, with some suspicious symptoms. He belonged to the American barque Hercules, direct from Philadelphia, and boarded at Franck's tavern. On the 9th of January he left the hospital re-established.

4. Josiah Baker, an American sailor, was admitted on the 5th of January, with almost the same symptoms as patients 1 and 2. Baker and Anderson were both from the Navarre, and both lodged at Franck's. Baker died 40 hours after admission with the same symptoms as his unfortunate companion.

The Navarre arrived from Bahia on the 30th December; the barque Hercules had discharged some of her men, for mutinous conduct, and three of them boarded at Franck's.

Dr. Lallemant immediately visited Franck's tavern, but found no one sick.

5. Mathew Donelson, (admitted January 7th,) American, from the Hercules; like No. 3, he lived at Franck's. He died in 44 hours after admission.

Visiting Franck's tavern the same day, Dr. Lallemant found two patients.

6. Thomas Lamerton, an American, with the fever completely developed, and the spleen very much enlarged, consequent upon attacks of fever on the coast of Africa.

7. H. Marshall, an American, then in the commencement of the disease.

Both cases were instantly sent to the Santa Casa. Patient No. 6 died in 48 hours, and Marshall (No. 7) after 12 days treatment left the hospital cured.

8. January 8th, William Hamlin, an American sailor from Franck's tavern, admitted in the commencement of the fever. He left the hospital on the 12th, but returned eight days afterwards with copious black vomitings, and died at the end of 24 hours.

9. Meogy, an American sailor from the barque Hercules, and like No. 3 and 5, a boarder at Franck's tavern, where he sickened on the 8th of January. Declining to go to the hospital, he was treated at Franck's and was re-established in five days.

Opposite to Franck's and in the immediate vicinity of it were two other sailor taverns; one kept by Wood, an Englishman,

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and the other by Auguste Hourdé, a Frenchman; there were sailors living at both of them. All these sailors visited from tavern to tavern. On the 8th of January in the Santa Casa da Misericordia was—

10. Thomas Fox, an English sailor living at Wood's, with symptoms of the fever; he left the infirmary cured on the 12th.

11. Robert Luff, an Englishman, for many years a resident in Brazil, addicted to intoxication, lived at Wood's. He sickened on the 8th, entered the hospital on the 10th with the fever fully developed, and died in 48 hours.

These two cases induced Dr. LaHemant to visit Wood's tavern, where he found that

12. Wood himself,

13. The wife of Wood, and

14. Lenschau, his German clerk, had had the fever mildly; Lenschau was then convalescent.

15. Auguste Hourdé, master of the third tavern, entered the infirmary on the third of January with slight fever; on the 5th, feeling well, he asked his discharge, but on the 14th he returned with violent fever, and died on the 20th.

16. The wife of Hourdé sickened on the 17th with slight fever, and was re-established on the 21st of January.

17. A French sailor, name forgotten, sickened at Hourdé's at the same time, and recovered in a few days.

18. Washington Sands, a mulatto, an American sailor living at Wood's, sickened on the 10th of January, entered the hospital on the 12th with violent fever, grew better and left on the 18th with eyes very yellow.

19. Lawrence Lattrow, an American sailor, at Franck's tavern, where he was found, at 9 o'clock P. M., Jan. 18th, almost moribund, having been sick three days. He was immediately conveyed to the hospital, where he died in a few hours.

20. Joseph Patrick Rodgers, an American sailor, a boarder at Franck's, sickened with fever, and was admitted into the infirmary on the 17th, and died on the 20th of January.

Enquist, the subject of case No. 1, came directly from Finland to Rio de Janeiro, and lived on the declivity of the Castello, just behind Franck's house, at a height of 20 or 30 feet. Whenever he descended the hill to the beach of Santa Luzia, he necessarily

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passed Franck's house, where there was always one or more Swedes, as Anderson No. 2, for example, with whom Enquist entered the hospital; there the Finlander could find some one who spoke his language, and perhaps it was the only tavern in the city where the Swedish language was spoken. Therefore it is probable that Enquist had some communication with Franck's house.

In the latter days of his life, Enquist had been frequently on board of the Russo-finland vessels anchored in the harbor; indeed he sickened on board of one of them, whence he was conveyed to his lodgings. And eight days after his death, yellow fever suddenly broke out with violence on board of two of those Finland vessels, the Norna and Niord; almost at the same time, the captain, mate and a sailor died; and on the 10th of January several sailors from these vessels, and a Swede from the Swedish ship Scandia, were carried to the strangers' infirmary of the Santa Casa da Misericordia.

And further in the street Misericordia, between the houses of Wood and Hourdé, and opposite to Franck's, is the house of a German merchant, whose daughter, who was the wife of her father's partner, had returned a few weeks from Altona, in the ship Marie Christine; in her company was a German girl named Amalia Elizabeth Peersman. The family lived at the hotel Pharoux, but breakfasted at the house in Misericordia street. The servant sickened on the 8th of January, and died in Misericordia street on the 13th, with a violent attack of yellow fever.

From the begininning of January, the sailors of the Marie Christine daily visited the house in Misericordia street, opposite to Franck's, and suddenly several of that ship's company fell sick.

From on board of the Marie Christine, amidst the crew of which the germs of the disease existed, sailors went daily to the house of Christiano Hess, on the shore D. Manoel, to buy fresh meat, and suddenly his German cashier from Petropolis, who sold the meat to the sailors, was taken violently with the fever; but on the 14th of January, six days after the invasion of the disease, he was out of danger, and was re-established at the end of three weeks.

On the 8th of January, Dr. Lallemant reported the existence of yellow fever in Rio de Janeiro.

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The government directed a meeting of the Imperial Academy of Medicine to be called. The diagnosis of Dr. Lallemant was questioned, chiefly on the ground that the cases had occurred almost exclusively in his own practice; a single case was reported by Dr. Feital, which came from Bahia in the steamer D. Pedro, and died on the 29th December in the Marine hospital. A committee was appointed, and reported in such a manner that doubts existed in the minds of some; but two days later, no member of the Imperial Academy could deny that yellow fever was present.

On the 17th of January, three patients from the Russian schooner Norna, four from the Swedish brig Alfhild, three from the Danish schooner Marie Christine, one from the Russian schooner Niord, all suffering from the same symptoms, entered Dr. Lallemant's infirmary. Along Misericordia and the neighboring streets, several cases had occurred, and at the next meeting of the Academy a member announced that every physician must be convinced of the existence of yellow fever in Rio de Janeiro—and such is a history of its commencement in the year 1850.

In the latter half of January, the cases became too numerous to be registered. The disease passed from house to house and from street to street. Whites suffered most, next the mixed races, and the pure blacks almost entirely escaped. But the great mortality was among unacclimated foreigners. The rich and the poor suffered alike. The fever prevailed most fearfully in March, April and May.

In two months Dr. Lallemant states that he received patients into his hospital from 95 vessels of different nations, so that almost all the languages of Europe were spoken at the same time under one roof.

Men suffered more than women, and those between 16 and 40 years of age suffered most.

It was estimated that there were in the year, 100,000 cases of fever, of which 10,000 died.

Numerous hospitals were established for the reception of yellow fever cases. Into these hospitals there were admitted up to 31st of May, 2,086 patients, of which 1,036 died. In the three following months 216 cases were admitted, of which 87 died.

A small steamer, the Santa Isabel, was employed (and is still)

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to visit ships in the harbor, to convey the sick to the hospital. A flag displayed on the bowsprit signified a yellow fever case on board; the steamer, provided with medical officers and necessary appliances, immediately came alongside and conveyed the patient to the shore, where he was furnished with everything requisite, even to clothing, free of charge.

Dr. Lallemant says, that the hospitals established for the treatment of yellow fever, were like those of other countries, when the exigency of circumstances did not permit the construction of appropriate edifices: although not perfect, he feels obliged to declare, from what he saw and heard, that all strangers and foreign governments especially, have abundant reasons for being grateful to Brazil for having, in a calamity so terrible to foreigners, provided so considerately and extensively for this class of the sick.

Dr. Candido describes three periods or stages of yellow fever. The symptoms of the first, are loss of appetite, thirst, a pasty, bitter taste, the tongue at first moist and pale, afterwards with a white or yellow fur in the centre, with red edges and tip, yellowish or greenish vomitings of ingesta, pains in the epigastrium, and sometimes also in the belly; constipation; rarely icterose.

Difficulty of respiration; breath hot and of a peculiar odor; rarely epistaxis.

Pulse full and frequent; throbbing of the temporal and carotid arteries; intumescence of the jugular veins.

Cephalalgia, eyes brilliant, watery, very sensible to light, pupils dilated; insomnia, or comatose condition; difficulty of speaking; contusive pains in the limbs and back; tongue and lower lip tremulous. Urine red and scant. Decubitus dorsal; color of the breast, neck and face red; skin hot and dry; conjunctivæ injected.

Second period. Tongue furred, with papillæ of the same color, or normal, or dry and of a satiny red, with a darker stripe in the centre; more or less frequent vomitings of liquid ingesta, bilious, color of chocolate, black (like coffee-grounds or tar) or of blood: severe pains in the stomach, heat like the scalding of black vomit, (precursory); belly painful, sometimes tympanitic, generally flaccid; boborygmata, eructations; right hypochondrium some-

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times sensitive; evacuations yellow, obscure, black, commonly fœtid; excoriations of the anus.

Respiration irregular and difficult; abundant epistaxis; blood does not readily coagulate.

Pulse frequent and soft, seldom full and hard; pulsations of the heart relatively stronger than those of the radial artery.

Slowness of reply, confusion of ideas, insomnia, delirium, comatose condition, sobbing, jactitation.

Urine turbid, diminution of quantity, and not without sediment. The ammoniacal transformation which rapidly supervenes prevents the deposition of extractive matters.

Conjunctiva yellow, a livid circle around leech bites, red color at some points, and yellow at others, the first disappearing on pressure to become yellow, but soon resuming the primitive color —scarlatinose spots with furfuraceous or scaly desquamation, furunculæ, petechiæ, sudamina.

Third period. Lips cracked, dry, teeth fuliginous, sanguineous exudations from the entire mucous lining of the mouth; tongue dry, cracked, red, presenting here and there small coagula of blood; severe pains in the stomach and belly, particularly in the iliac fossæ, the patient shrinking from the slightest touch; black vomitings increased in frequency; the evacuations, ordinarily of the same nature, become insupportably fœtid; rectorrhagia—in some cases diarrhœa; intense inflammation of the tonsils, causing asphyxia.

Dyspnœa; expired air cold and fœtid.

Pulse filiform, irregular, or soft and frequent.

Anxiety, sobbing, eyes dull, comatose condition, or restlessness, the patient desiring to throw himself out of bed, deafness, delirium, carphologia, or picking at the bed-clothes, subsultus tendinum, convulsions, in some cases of an epileptic form, complete prostration, indifference.

Entire suppression of urine, urethral hæmorrhage.

Hæmorrhage from all solutions of continuity, from the conjunctiva, afterwards gangrene, decubitus dorsal, with the extremities in supination, parotid abscesses, cold extremities, diminished temperature, cold sweat, gangrenous ulcerations over the trochanters and sacral region.

To these symptoms, noted from the observation of nearly 4000

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cases in hospital, may be added others frequently met in private practice, which, in the opinion of Dr. Candido, are worthy of especial attention. He enumerates the following:

Defective memory; from the moment of invasion, or in one or two hours, the patient is unable to explain; he is conscious of loss of memory. Sometimes intense pains in the lower extremities, in the lumbar region, &c., constant pain in the supra-orbital region, at least in the first period of the disease; a weakness in convalescence, totally disproportioned to the severity or benignity of the disease: in some cases the intelligence remains clear till the moment of dissolution.

Secretion of mucosities from the mouth, œsophagus and internally so excessive that their expulsion is very difficult, and they require to be removed.

Incessant thirst.

The pulse throughout compressible or soft, for the sygmoid aortic valves being closed and the muscles which compress the arterial system being relaxed, the elasticity of this system is deprived of these auxiliaries, and yields to any pressure whether the artery, provided it be full, contains a greater or less amount of blood. Dr. Candido never failed to observe this compressibility or softness of pulse from the onset in serious cases.

Miliary eruption, urticaria, &c., even in individuals not attacked, but threatened.

The following is a summary of the post-mortem appearances observed in the persons who died of yellow fever in the marine hospital of Santa Isabel at Rio de Janeiro.

Digestive apparatus.—In some cadavers, inflammation of the œsophagus, its mucous membrane softened in patches, covered with a glutinous liquid, more or less dark colored, analogous to the dark liquid vomited during life. In most instances the stomach contained a black liquid; in a few, it was yellow or reddish; the mucous membrane was of a red color, sometimes so loaded as to simulate ulcerations, ecchymoses; it was softened; the pylorus presented more extensive excoriations than the cardia. The color, texture, and liquids found in the duodenum were of the same character as those of the stomach; the large intestines suffered the same lesions, but were not so frequently affected. In some instances the liver was normal in condition, in others it

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was enlarged and marked with red spots, or of a friable texture. The gall-bladder always contained bile, in variable quantity, dark colored, of a muddy green, or of normal color; change of its density was seldom observed.

Urinary apparatus and peritoneum.—The bladder contained more or less urine dense, dark, yellow; sometimes of a normal color—or it was contracted and without liquid. Its mucous membrane was more dense and injected about the neck than in the fundus. In most instances no change was noted in the kidneys; sometimes their volume was augmented and their color was darker than they commonly are. The peritoneum in a great number of cadavers was injected at points, and marked by lead-colored spots.

Nervous apparatus.—No alteration in the consistence of the cerebral mass worthy of notice was observed in some cases; but in some it was more flaccid than natural. The meninges and encephalon were injected; in the latter, the injection being in points more or less distinct: serous, slight sero sanguinolent effusions in the ventricles, and in the cavities of the arachnoid; effusion of blood in the cerebrum was rarely observed. Yellow or sanguinolent serosity was found in the interior of the rachis; the envelopes of the medulla were more or less engorged, particularly in the sacro-lumbar region.

Respiratory apparatus.—Passive congestions and partial engorgements in some part of the lungs with minute crepitation; signs of inflammation in the mucous membrane lining the bronchia; these changes were not constant.

Circulatory apparatus.—Effusion, in small quantity, of yellow or sanguinolent serosity both in the pericardium and endocardium, without a trace of inflammation in either organ. In many cases dark blood with or without soft coagula was found in the cavities of the heart and in the great vessels: in some cases they were empty.

External appearances.—The color of the skin was citrine yellow with violet-colored spots, entirely violet, or in some cases lead-colored: in some, petechiæ and sudaminæ, principally on the breast and belly; a livid circle around leech-bites, and sites of vesicatories; in very few the skin was marked by furfuraceous desquamation; conjectivæ in two cases were so much injected as

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to simulate large coagula: ulcerations over the sacrum and great trochanters. In general all solutions of continuity presented a gangrenous aspect, and on the surface as well as through nearly all the tissues an infiltration of a yellow liquid was observed.

Treatment—"If," says Dr. Candido, "yellow fever results from decomposition in organic principles, and this decomposition is set up through the intervention of an excitant, as I have endeavored to show, the object of treatment is then,

"1st. To destroy or at least neutralise the action of the excitant, and to modify the process of decomposition, which is in general attained by the agents which neutralise the excitants.

"2d. To eliminate from the economy all the *materia prima* of these decompositions, whether from a part already under the process, or another part not yet under the decomposing influence.

"To attain these two ends it is necessary:

"To remove the patients from an infected atmosphere, to one rich in *ozone* and oxygen, but not into a very different temperature.

"To throw into the torrent of the circulation by friction, drinks, and by all possible means, those agents which possess the property of modifying, retarding or arresting the process of decomposition, such as oxygen (inhaled), chlorine, creosote, camphor, aromatics, &c.

"To accelerate all the secretions from the moment of invasion, particularly the intestinal secretions, and those of the skin, kidneys and salivary glands—even to force, artificially, copious secretions by vesicatories; the effects of a large blister on the epigastrium when the symptom of a burning sensation there threatens black vomit, are really admirable.

"To maintain the regular exercise of all the functions, stimulating those which require to be accelerated, revulsives are demanded when the extremities become cool: irritating enemata when the peristaltic movements are sluggish. The illustrious Dr. Pym declares that in no disease are glysters more valuable than in yellow fever,—and this should be an axiom. The tranquillity observed at the commencement in the digestive system is deceptive: in the flaccid belly, and without observable alteration, is included the arsenal of death: the matters contained in these quiet intestines rapidly augment the material of decomposition to be absorbed; in these intestines are diffused the elements of urea when the kidneys no longer eliminate them: I urge that these combustibles be removed in time, and the vicarious routes for the elimination of *urea* and other effete matters be opened. For this object it is necessary to stimulate the urinary secretions as well as the intestinal secretions and excretions, because through these functions and diaphoresis the *materia prima* (which later would give rise to black vomit) are almost always eliminated.

"Such, in my opinion, are the great indications to be fulfilled: there are also special indications to be met during the disease and convalescence.

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"The following is a synopsis of the means employed in the Maritime Hospital of Santa Isabel, to fulfil the above therapeutic indications.

"*First period*,—Oleum ricini, magnesiæ sulphas, sodæ sulphas, soluble tartar, citras magnesiæ, calomel, senna, oleum tiglii, diaphoretic infusions, acetate of ammonia, tincture of aconite, of digitalis, belladonda, nitre, lauro-cerasus, Labaraque's solution, opium, clysters of Persicaria (i. e. *polygonum anti-hæmorrhoidale*, native of Brazil) with sulphate of soda or table salt and castor oil, sinapisms, *sinapised* baths, dry frictions or with tincture of camphor, dry or cut cups, leeches to the mastoid regions (seldom,) emollient baths containing tinct. of camphor, sulphuric, citric, or muriatic lemonades, barley water, infusion of flaxseed, tartar emetic, sulphate of quinine, and (when of an intermittent character) baths of Pâo Pereira."

Geissospermum vellosii, Dr. Francisco Freire Allemâo. A tree of Brazil which attains to a hundred feet in height, the bark of which is employed by the Indians and others in the interior in the case of intermittent fever, has been recently introduced into the Materia Medica of Brazil, and various physicians of Rio de Janeiro recognise it to be a valuable tonic. A pharmaceutist of that city, Ezequiel Correa dos Santos, obtained from the bark in 1838 an alkaloid, named *Pereirina*, which is supposed to contain its active principle. It is insoluble in water, but soluble in ether, alcohol and acids. It is exhibited in decoction, one ounce of the bark to twelve of liquid internally, and as a bath, one pound of the bark to a sufficient quantity of water.*

Second period.—Continued use of mild laxatives, especially tartrate of potassa, citrate of magnesia, dry or scarified cups, leeches on the mastoid apophyses, and to the anus (rarely) nitrate of potassa, cherry laurel water, tincture of aconite, belladonna, opium, lemonades made with sulphuric, citric, nitric or muriatic acid, flaxseed cataplasms with laudanum, emollient baths, hot baths of Pâo Pereira, sudorific infusions, sinapised pediluvia, large volant sinapisms, enemata of Labaraque's solution, cold drinks, camphor, vesicatory to the epigastrium, and sometimes to the lower extremities, fomentation to the belly, unguents of belladonna, mercury, laudanum, cicuta, &c.

Sulphate of quinine, serpentaria, decoction of bark with citric acid, dry frictions or with tincture of valerian, or bark, camphor,

* Formulario ou Guia Medica por Pedro Luiz Napoleão Chernoviz U. S. D., &c. Rio de Janeiro 1852.

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creosote, sinapisms to the trunk and extremities, enemata of Persicaria (Polygonum antihæmorrhoidale) bark, camphor; cataplasms of aromatics, hot bottles passed over the whole surface.

Infusions orange leaves, orange flower water, paregoric, and æther.

In black vomit, blister to the epigastrium, Labaraque's solution very much diluted, lemon juice, a weak solution of ergotine, cold lemonades, sometimes cherry laurel water.

Hæmorrhages were combatted with ergotina, vinegar, Jequitiba, (an astringent bark of Brazil, *Pixydaria macroparpa*, Schott.) Monesia (*Chrysoyhyllum buranhem*, Riedel).

Third period.—The remedies used in the third period are the same as those for the second, employed with more or less energy, according to circumstances.

Dr. Lallemant states that by an approximative calculation there were 100,000 cases, and 10,000 deaths.

Dr. Chernoviz states that from the invasion of the epidemic, that is, from the 1st of January 1850, until the 31st of August, the deaths from yellow fever in Rio de Janeiro numbered 3,827; from all other diseases 4,993, or a total of 8,820, including slaves and free.

In the year 1849, when there was no epidemic, the number of deaths was 7,905, which would give for the first eight months 5,270. By comparison it is seen that in the first eight months of 1850, the mortality was 3,550 greater than for the same period in 1849.

The epidemic began to decline about the end of May, and seems to have disappeared early in September. But recurred again in the succeeding years. The following tables, deduced from those given by Dr. Candido, exhibit the mortality from yellow fever, and from other causes in Rio de Janeiro, in the years 1851, 1852, 1853, and part of 1854; and that this disease has prevailed with more or less severity during more than four years.

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Mortality in the city of Rio de Janeiro.

	1851			1852			1853			1854		
	Different Diseases.	Yellow Fever.	Total.	Different Diseases.	Yellow Fever.	Total.	Different Diseases.	Yellow Fever.	Total.	Different Diseases.	Yellow Fever.	Total.
January	628	14	642	659	243	702	796	150	946	742	2	744
February	794	37	831	661	70	731	705	176	881	595	1	596
March	911	60	971	777	303	1,080	733	142	875	635	0	635
April	889	165	1054	683	403	1,086	621	153	774	585	1	586
May	733	98	831	624	325	949	651	82	733			
June	556	28	584	683	189	872	611	73	684			
July	550	9	559	627	93	720	565	26	591			
August	572	7	579	643	62	705	572	29	601			
September	668	4	672	576	62	638	598	7	605			
October	661	19	680	673	37	710	598	7	605			
November	641	26	667	623	47	670	621	6	627			
December	731	8	739	655	109	764	678	2	680			
Totals	8,334	475	8,809	7,784	1943	9,727	7,722	853	8,575	2,557	4	2,551

The following table includes the national and foreign sailors, from vessels visiting the port of Rio de Janeiro.

Summary of Yellow Fever cases treated in the Marine Hospital of Jurujuba, now called Santa Isabel, at Rio de Janeiro.

	1851 Opened Jan 1, and closed July 28, 1851.				1852 Open from Mar. 5 to Sept. 10 & from Nov. 2. till end of year.				1853 Open throughout the year.				1854 Open for time reported.			
	Admitted.	Cured.	Died.	Per cent.	Admitted.	Cured.	Died.	Per cent.	Admitted.	Cured.	Died.	Per cent.	Admitted.	Cured.	Died.	Per cent.
January	6	2	4	66	..	..	..	..	132	74	58	43	49	49	..	..
February	45	22	23	51	..	..	..	..	93	64	29	31	97	94	3	3
March	196	76	120	66	308	185	123	39	169	136	33	19	101	98	2	2
April	141	74	67	47	187	107	80	42	251	193	58	23	123	90‡	..	..
May	70	46	24	34	105	69	33	34	190	164	26	18	..	..	..	..
June	25	13	12	48	68	50	18	26	182	149	33	18				
July	1	..	1	100	38	26	12	31	68	58	10	16				
August	..	..	..	..	8	7	1	12	119	113	6	5				
September	..	..	..	..	10	8	2	20	99	95	4	4				
October	..	..	..	.	..	..	..	..	92	92	..	..				
November	..	..	..	..	27	18	9	33	71	70	1	1				
December	..	..	..	..	79	43	36	45	46	46	..	..				
Totals	484	233	251*	51	830	513	317†	38	1 512	1,254	258‡	17				

*In the year 1851, the visit to vessels was not established, so that patients were often admitted in a deplorable condition.

†Between May and August, 1852, the visit to vessels anchoring in the port was established by order of the President of the Board of Health (Junta de Hygiene:) the mortality diminished during this period.

‡The visit to vessels, in the steamer Santa Isabel, began March 4th, 1853; from this date the mortality diminished considerably, as may be perceived in the monthly per centum of this year.

¿The total number of patients treated during the four first months of the year was 370, of which 5 died, and 33 being still under treatment with good prospect of cure, gives a mortality of 1 per cent. The steamer Santa Isabel continues her daily visits.

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Mortality of Philadelphia for July, August and September, 1855; collated from the Health Office record. By WILSON JEWELL, M. D.

The deaths from all causes, during the past three months, have been 3387. The period embraced within the quarter, extends through thirteen weeks, or 91 days. Making the average 37¼ deaths per day.

The most striking peculiarity, is the large decrease of deaths, compared with the corresponding quarter of last year. Amounting to 1144, or 14·45 per cent. The deaths for the third quarter of 1854, were 4531.

If we take this decrease of deaths as our guide, in forming some estimate of the health of the city during the season, knowing also that the population must have increased during the year from 2½ to 5 per cent., and that 68 of the deaths on record were from the country, it is evident, that we have enjoyed an unusual share of health.

The largest decrease seems to have been in July, viz: 677. In August it was 816 less than for August of '54, but in September it was only 151.

In the Zymotic or Endemic class of diseases, we find there was less 787, than in the same class of last year, or 25·08 per cent. In one disease alone, cholera, the difference was less 494, equal to 90·14 per cent. Dysentery, also, fell off 135 in the quarter, or 26·83 per cent.

By striking from the record the Still Born, the Accidental or External Causes, Old Age, Debility and Unknown, amounting in all to 494, we may arrive at a nearer approximation to the actual mortality for the quarter from diseases alone. If we go further, and erase from the record those from preventable diseases, we shall be able to reduce the rate still lower.

The excess of deaths in the sexes is with the males; equivalent to 7·23 per cent. In the deaths from External Causes, the excess of males is more than usually large, equal to 48·05 per cent.

Infantile mortality contributes its accustomed share in this quarter towards making up the table. We find that 1168, or 34·48 per cent. of the deaths, including the Still-Born, were under one year of age. Under five years 1898, or 56·03 per cent.

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The Endemic or Zymotic class of diseases, always prevalent in the 3d quarter of the year, furnishes a large proportion of the deaths, 1175, or 34·69 per cent. Compared with the corresponding quarter of last year, there is a decrease of 25·12 per cent. Cholera Infantum in this class supplies 527. Dysentery 184; Diarrhœa 100. The deaths from Fevers amount to 152. Small Pox is evidently on the increase; as the record presents 58 deaths during the quarter. These, added to those in the first and second quarter, make 151 since the 1st of January. Not a solitary death has been recorded from measles throughout the quarter.

In the class Uncertain or General Seat, Marasmus 209, and Debility 113, make up a very large proportion of the deaths; equal to one in every one and a half of the whole number. Of Marasmus, 190 were under two years of age.

Of the Nervous affections, Convulsions in children, continue to supply a large amount of the deaths; out of 594 they furnish 212, or 35·69 per cent.

The deaths from diseases of the organs of Respiration, would be comparatively few, were it not for Consumption of the Lungs, which contributes 300, or 69·12 per cent. of the whole. During the corresponding quarter of last year, the deaths from Consumption of the Lungs were greater by 4·77 per cent. than the present one.

Old Age numbers 34 deaths. The Still Born amount to 144. This latter cause for swelling our bills of mortality weekly, appears to be on the increase instead of the decrease, as the science of medicine (or at least that branch of it which relates to Midwifery) advances.

In the table No. 3 we have the number of deaths at each of the fifteen distinct periods of life. Commencing with those under one year, we find a gradual decrease until the fifteenth year; from 1168 to 49. Beyond this period the scale is upwards until it reaches thirty, when it gradually declines to the remotest period of life.

From the Blockley Almshouse there were 210 deaths reported. Rather a frightful mortality for three months, out of a population of between two and three thousand. It will be recollected, however, that a many of those who die in the Hospital, are sent

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there from the different wards of the city, and oftentimes in a dying condition. Besides, the pauper population of this institution is, generally, a class with broken down health, or suffering from chronic and incurable diseases, or else bowed down by extreme old age, so that, when attacked with acute forms of disease, they seldom recover, but die within a very few days.

The unusually large number of deaths recorded as coming from the country, amounting to 67, if deducted from the aggregate for the quarter, will make the comparison between this and the same period of last year the more striking.

TABLE NO. I.

Deaths for the third quarter of 1855 *classified.*

				Male.			Female.			
	July	Aug.	Sept.	J.	A.	S.	J.	A.	S.	Total.
1 *Endemic & Contagious diseases* Zymotic or Epidemic	366	555	254	190	297	131	176	258	123	1175
2 *Uncertain or general seat,* Sporadic diseases	142	206	135	80	111	84	62	95	71	483
3 Nervous system	229	244	121	125	132	77	104	112	44	594
4 Organs of Respiration	136	181	130	68	88	65	68	93	65	447
5 " Circulation	20	19	12	9	11	6	11	8	6	51
6 Digestive organs	65	93	46	30	49	26	35	44	20	204
7 Urinary "	1	4	1		2		1	2	1	6
8 Organs of Generation	4	9	5				4	9	5	18
9 " Locomotion	5	4		4	2		1	2		9
10 Integumentary system	3		3	1		2	2		1	6
11 Old age	5	16	13	2	7	5	3	9	8	34
12 External causes	59	61	34	44	42	28	15	19	6	154
Still Born	54	46	44	30	27	26	24	19	18	144
Unknown	24	17	21	13	11	11	11	6	10	62
	1113	1455	819	596	779	441	517	676	378	3387

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TABLE NO. 2.

1. *Endemic and Contagious Diseases—Zymotic or Epidemic.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cholera	8	19				1	1		4	6	5	1	5	3	1			27
" infantum	288	239	363	147	17													527
" morbus	7	15	4		2				4	6	1	3		2				22
Croup	18	20	5	7	19	7												38
Diarrhœa	50	50	48	17	8		1	1	5	6	2	7	2	3				100
Dysentery	99	85	36	27	25	6	4	8	20	16	11	10	13	4	4			184
Erysipelas	7	3	4		2	1		1	1		1							16
Fever,	4	2		2			1			1	1	1						6
" Bilious	4	7						2		3	1	3		2				11
" Congestive	3				1			1		1								3
" Intermittent	1	2			1											1	1	3
" Malignant	1								1									1
" Nervous		1								1								1
" Pernicious	2								1					1				2
" Remittent	6	9	5	1	1		1	1	2					1	2	1		15
" Scarlet	14	12	3	3	14	6												26
" Typhoid	27	32	2		5	1	2	10	12	11	9	2	4	1				59
" Typhus	13	10				1	1	3	10	5			1	1	1			23
" Yellow	2							1			1							2
Hooping Cough	27	17	19	17	7	1												44
Influenza		1	1															1
Small Pox	33	25	9	7	19	10	1	3	4	2	1	2						58
Syphilis		2	2															2
Varicella	1		1															1
Varioloid	3	5	1	1	1	2	1		1	1								8
	618	556	503	229	122	36	13	31	65	59	33	29	25	18	8	2	1	1174

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2. *Uncertain or General Seat—Sporadic Diseases.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess	4	1	3		1	1												5
" Thigh		1								1								1
Angina Faucium		1			1													1
Cancer	5	6				1			1	1	1	3		4				11
" Breast		2										2						2
Carbuncle, Malignant	1											1						1
Cyanosis	6	4	10															10
Cachexia		1		1														1
Debility	56	57	65	4		3		1	2	4	8	5	10	5	4	2		113
Dropsy	18	21	1		4	1			2	2	4	5	9	6	5			39
Gangrene	4	3							1		1	1	2		2			7
Hemorrhage	3	1	1	1						1		1						4
Fungus Hematodes	1								1									1
Inflammation	1			1														1
" Throat	2	3	3		1									1				5
" Tonsils		1		1														1
Inanition	24	13	31		1						3		2					37
Malformation	6	6	12															12
Marasmus	113	96	141	49	11	2	1		1	1		1	1	1				209
Mortification		2	1	1														2
Osteo Sarcoma		1								1								1
Scrofula	8	7	3	2	2	1	2		3	1		1						15
Ulceration	1									1								1
" Throat	2	1	1			2												3
	255	228	272	60	21	11	3	1	11	13	17	20	24	17	11	2		483

3. *Nervous Diseases.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess of Brain	1				1													1
Apoplexy	10	14	1			1			1	6	1	2	6	3		1		24
Congestion of Brain	34	23	20	7	8	6	3	2	2	3	3	2		1				57
Compression "	1		1															1
Convulsions	112	100	138	47	17	7			3									212
" Puerperal		4							3	1								4
Coup de Soliel	11	2						1	4	5		1	1	1				13
Disease of Brain	17	12	6	6	3	1	1	1	1	2	1	2	2	1				29
Dropsy "	42	33	35	25	12	2	1											75
Disease of Nerves	1	1	1						1									2
Effusion of Brain	16	13	12	14	2	1												29
Epilepsy	3	5	2	1			1		1	2	1							8
Inflammation of Brain	54	33	29	27	13	7	2	3	3		2	1						87
Mania	2	1							1			1	1					3
" a Potu	6									5	1							6
Nervous Erethism		1							1									1
Palsy	10	15			1				4	1	4	7	2	4	1	1		25
Softening of Brain	7		1	3							1	1		1				7
Tetanus	4	2		1			1	2	2									6
Trismus	3	1	2		1								1					4
	334	260	248	131	60	25	9	9	27	25	14	17	13	13	1	2		594

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4. Organs of Respiration.

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess of Lungs		2							1	1								2
Apoplexy "		1											1					1
Asthma	2	2								1	1		1	1				4
Congestion of Lungs	3	9	6		2	1			1			1		1				12
Consumption "	150	159	11	3	7	1	6	28	106	64	50	15	11	7				309
" Laryngeal		1									1							1
Coryza		1	1															1
Disease of Lungs	5		1					1	2		1							5
" Chest	5	3			3				1			1	3					8
Dropsy of "	5	4	1			2	2			2			2					9
Hectic Fever		1							1									1
Hemorrhage of Lungs	3	3							1	3	1	1						6
Inflamm'n of Bronchiæ	14	10	10	4	2	3				1	1			2	1			24
" Larynx	3				1	1						1						3
" Lungs	30	30	16	14	8	3	1	4	2	6	1	1	1	1	2			60
" Pleura	1	1								1			1					2
	221	227	46	21	23	11	9	33	115	79	56	20	20	12	3			448
Still Born	83	61	144															144
Unknown	35	27	24	5	1	1	1	2	5	8	6	4	4	1				62

5. Organs of Circulation.

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Anæmia	3	2	4							1								5
Angina Pectoris		1												1				1
Disease of Heart	20	15	1	1		1	2	2	6	3	4	5	8	2				35
Dropsy "	2	3							1		1	1		2				5
Enlargem't "	1	2			1				1			1						3
Inflammat'n "		2			1					1								2
	26	25	5	1	2	1	2	2	8	5	5	7	8	5				51

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6. *Digestive Organs.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cancer of Stomach & Bowels		1													1			1
" Stomach	2									1				1				2
Cancrum Oris	1	1			2													2
Colic		3		1					1			1						3
Disease of Bowels	1												1					1
" Liver	4	4								1	2	3	1		1			8
" Stomach		1			1													1
Dropsy Abdominal	4	5		1		1					3	1	2		1			9
Dyspepsia	2	1	2								1							3
Enlargement of Liver	1						1											1
Gangrene of Intestines	1									1								1
Hemorrhage of Bowels		1								1								1
" Stomach	2	2							1	1	1			1				4
" Umbilicus		1	1															1
Hernia		2	1								1							2
" Strangulated		1								1								1
Ileus	2	1	1										1	1				3
Induration of Stomach	1										1							1
Inflammation of Bowels	21	25	14	11	2	1	1	1	2	5		3	4	1		1		46
" Liver	7	4	1		1			1	2	3	1	1	1					11
" Peritoneum	2	5			1	1	1	1	2			1						7
" Stomach	10	11	6	2						5	2	2	2	2				21
" Stom. & Bowels	6	5	2	1	1					1	2	1	2		1			11
Intussusception	2		1		1													2
Jaundice	6	5	4					1			1	3	1	1				11
Obstruction of Bowels	1	2					1				1			1				3
" Liver	1										1							1
Perforation of Intestines	1												1					1
Stricture of Esophagus	1													1				1
Sore Mouth	5	3	8															8
Tabes Mesenterica	7	7	10	2	2													14
Teething	7	4	3	7	1													11
Ulceration of Intestines	1	4	2	1						2								5
" Liver	1											1						1
" Stomach	1	1		1						1								2
Worms	1	2	1	1					1									3
	105	99	57	28	12	3	4	4	9	23	17	17	16	9	4	1		204

7. *Urinary Organs.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Albuminuria	1	3						1	2					1				4
Diabetes	1									1								1
Inflamed Bladder		1									1							1
	2	4						1	2	1	1			1				6

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8. *Organs of Generation.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cancer of Uterus		5								2	2	1						5
Hemorrhage of Uterus		6							2	2	2							6
Inflammation "		3							2		1							3
Ovarian Tumor		1								1								1
Rupture of Uterus		2								2								2
Schirrhus "		1											1					1
		18							4	6	6	1	1					18

9. *Organs of Locomotion.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Caries of Spine	1								1									1
Disease of "	1				1													1
" Hip	1	2		1		1				1								3
Inflammation of Spine	1			1														1
Rheumatism	2									2								2
Spina Bifida		1	1															1
	6	3	1	2	1	1			1	3								9

10. *Integumentary System.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Herpes		1		1														1
Hives		1	1															1
Purpura Hemorrhagica	1	2	2	1														3
Rash		1		1														1
	1	5	3	3														

11. *Old Age.*

Old Age	14	20											10	16	7	1	34	

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12. *External Causes.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Asphyxia	5	2	6							1								7
Burns	3		1	2														3
Casualties	40	9	1	1		1	2	3	13	12	12	3		1				49
Drowned	32	11		1	2	7	6	3	10	10	3			1				43
Effects of Heat	11	4							1	5	3	2	2	1	1			15
Exhaustion	1	2								1	1			1				3
Exposure	1									1								1
Fracture	2	3								2		1	1		1			5
Hydrophobia	1											1						1
Intemperance	8	6							1	5	5	3						14
Neglect	1		1															1
Poisoning	1	1		1								1						2
Suffocation	4				1				1	1	1							4
Suicide	4	2							1		1	1	2	1				6
	140	40	9	5	3	8	8	6	27	38	26	12	5	5	2			154

TABLE NO. 3.

Deaths for the Third Quarter of 1855, *at fifteen distinct periods of life.*

Under 1 year,	1168
1 to 2	485
2 to 5	245
5 to 10	97
10 to 15	49
15 to 20	89
20 to 30	274
30 to 40	260
40 to 50	181
50 to 60	127
60 to 70	116
70 to 80	91
80 to 90	45
90 to 100	14
100 to 110	2
	3243
Still Born	144
Total,	3387

Embraced within the above table were 210 from the Blockley Alms House; Blacks, 174, and from the country 67, as follows:

	July.	Aug.	Sept.	Total.
Almshouse,	65	92	53	210
Blacks,	56	81	37	174
Country,	16	24	27	67
	137	197	117	451

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BIBLIOGRAPHICAL NOTICES.

Elements of Medicine: a compendious view of Pathology and Therapeutics; or, the History and Treatment of Diseases. By SAMUEL HENRY DICKSON, M. D., L. L. D., Professor of the Institutes and Practice of Physic in the Medical College of the State of South Carolina. Philadelphia, Blanchard & Lea.

It is a duty, in our opinion, incumbent upon every one who occupies for any length of time, the responsible position of Teacher of Medicine, to give forth occasionally the fruits of his accumulated study and experience to the world. However thorough may be his acquirements or extensive his information, so long as they are imparted only to a few students, he cannot but be regarded as an unprofitable servant to the profession at large. This natural demand upon those whose superior talents and position have given them advantages denied to the many, although a just claim, is, however, too often disregarded, particularly in our own country; and it is with sincere gratification, therefore, that we notice the appearance of Prof. Dickson's work upon the Elements of Medicine.

By far the largest portion of the work is devoted to Special Pathology and Therapeutics. As an introductory to his exposition of those branches, the author very properly premises a view of General Pathology, a department of medical science too little and too loosely studied by the great mass of the profession. The great advantages which a practitioner secures from a general and comprehensive view of disease, which can only be obtained from a proper appreciation of the nature, causes, symptoms, progress and pathological results, which are the common property of all diseases, cannot well be over estimated. Without such general principles to guide him at the bedside, he can hardly fail, however well taught in other respects, to degenerate into a mere routinist, with his particular remedy for every disease, no matter what may be its type or complication or natural duration. A philosophical physician, competent to every emergency, it is impossible he can ever be.

The first part of the work, which, as we have just said, is on General Pathology, is devoted to the consideration of the nature of

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disease, etiology, the seats of disease, the phenomena of disease and the tendency of diseases. Each of these subjects is briefly, and, in general, judiciously sketched. Under the head of "Incidental Causes of Diseases," we notice the following remarks upon the influence of the corset or stay in the production of disease: "The female corset or "stays," with their appendages, have been subjects of reiterated and severe animadversion. They are susceptible, however, I think, of a fair defence. They are not necessarily hurtful, but do injury only by excess or want of adaptation. They give a graceful support to the form, which, in a large majority of instances, they unequivocally improve by imparting an air of firmness and neatness. The athlete always girds his loins for the contest, whether of wrestling or running; and even the charming mother of Cupid became more irresistible when she encircled her symmetrical waist with the cestus. Matrons feel the need of 'Supporters,' and encourage the ingenuity of those who provide them with suitable arrangements.

The evils of the corset have been, I am persuaded, greatly exaggerated. If laced too tightly, it must compress the thorax and impede the respiration; it may also constrain the viscera, and render the motion of the body inconvenient and awkward. Yet I do not remember, in forty years' practice, to have met with any definite example of deformity or injury from this cause. I have more than once seen the breasts hurt and inflamed by having the steel-piece or whalebone in front too broad, so as to press upon them, but this was soon relieved."

The influence of the corset in producing *consumption* is very fully and philosophically described by Dr. Walshe, in the Appendix to his treatise on the Diseases of the Lungs and Heart, 2d edition, to which we refer those of our readers who are desirous of more information upon this subject. His concluding remarks, in which, it will be seen, he differs somewhat from our author, are these: "If the abuse of stays produces consumption, its power to do so most indubitably remains to be proved; and while the laws of an enlightened pathology point to the excessive improbability of an essentially diathetic disease springing from a mechanical cause, I entreat you not to adopt the popular creed, that 'stays cause consumption,' unless on direct and unimpeachable logical evidence. There is quite enough in the demonstrable evils entailed by tight lacing to justify you in warring against

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the abuse; you have no need to support your arguments by the unfair appeal to an imaginary mischief."

Our author's affirmative belief in the contagious nature of certain diseases, yellow fever, cholera, &c., is well known to the profession by his previous writings. His views may be summed up as follows: Two elements, he says, are "essential to the description of contagion as a cause of disease; first, that it should be *germinal*, that is, self-multiplying, reproductive; and, second, that this reproduction should depend upon, or be favored by, the very *processes of disease* which itself gives rise to." It may, however, originate spontaneously or independently, and as nothing inorganic can propagate itself, it must be organic in its nature. The organisms, in which this power of reproduction resides, and which have never yet been insulated or discovered, must possess an affinity for the *human* constitution. As a known contagious disease, variola for example, may reproduce itself by the insertion of matter into a wound from a vesicle, and also act efficiently *at a distance*, we must in the latter instance ascribe the phenomena either to the radiation or diffusion of the same *materies morbi* which is contained in the scab; or "we must assume the production and elimination of two forms of efficient contagious matter. But the first is already shown to be ultra-microscopic in the minuteness of the atoms in which it consists, and, therefore, I see no difficulty in its elimination and radiation from the deseased body." Dr. Dickson is of opinion that analogy is a very unsafe guide in this question. Because a palpable contagious matter is evident in some diseases, whilst others show, *in addition*, an impalpable or diffusible contagion, effective at a distance, physicians, he thinks, are too apt to believe that a third class exhibiting the property of diffusiveness only, and which have never yet been conveyed from a diseased to a healthy body *directly*, such as typhus, pertussis, puerperal fever, yellow fever and cholera asphyxia, cannot, therefore, be contagious. A capacity for self-multiplication, however, exists in each of these; each of them, too, proceeds according to its own laws of appearance, increase and decline; "but in all, the phenomena of their extension and propagation; their great diversity of localities, their attendance upon migratory masses; their prompt multiplication under fostering contingencies connect them closely with the undoubted,

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undenied contagions." If the organic, self productive character of this class of diseases be denied, insuperable objections, according to our author, present themselves. Taking cholera for an example, great masses of its poison must exist on the earth's surface. This poison must either be generated by local causes everywhere, where the disease is present, or it must originally have been produced in great abundance to have diffused itself so widely. Both of these opinions are, our author thinks, indefensible. He believes also, that all contagions are contingent. Yellow fever, dysentery, and the plague, are contingent upon seasons, climate, and temperature, while small pox, measles, scarlet fever, and cholera, though they defy all *known* contingencies, have their individual preferences and exemptions.

To determine the contagious character of a disease, he says:

"Inoculation will decide where any palpable matter is found. Where there is no visible product, we must be guided by rational inference from obscure facts, such as:

1. Repeated spread among those surrounding a sick man.
2. The occurrence of repeated cases upon exposure to various fomites; these are circumstances which give obvious reasons for the belief of the contagiousness of any maladies of which they are predicable.
3. Progressive extension from a first observed locality.
4. A decided preference for dense populations.
5. Repeated migration with travelling persons or bodies.
6. A preference for the ordinary thoroughfares by sea and land."

Our limits permit us only to observe here that these tests for the determination of the contagious nature of diseases, are valueless in our opinion, as regards one of the diseases in question. How does the first rule which carries in the opinion of the majority of persons the greatest weight with it, apply to yellow fever? During the prevalence of that disease in Philadelphia in 1853, it was confined to a certain locality in the vicinity of the river. Although numerous patients affected were carried to the Pennsylvania Hospital, which is distant half a mile or more from the infected neighborhood, and were there placed indiscriminately with other cases in the wards, and though several autopsies were made, not a single instance occurred of propagation of the disease. The same immunity was observed in places to which persons fled, with the seeds of disease in them, from Norfolk and Portsmouth. We might except to some of the other rules also. We have not space, however, for the discussion of the subject here. That the profession is not more fully agreed

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upon such an important question, involving as it does, the most serious consequences, is much to be regretted.

Under the head of Special Pathology and Therapeutics, are included the Classification of Diseases,—Diseases of the circulatory system, of the digestive system, of the respiratory system, of the sensorial system, of the motory system, and of the excernent system. We regret that we have no space to copy several passages that we had marked for that purpose, and upon which we desired to make some comments.

One of the chief merits of Dr. Dickson's work is the excellence of its style. Always smooth, clear, and flowing, it is at times characterized by a warmth and glow of language, not often found in didactic treatises. The reader will find in the following passage an example of the finished and ornate mode of expression with which the author frequently embellishes the most ordinary topic:

"Of all occupations, it may readily be conceded, that agricultural pursuits are most friendly to physical well-being. The labors of the farmer, though regular, are sufficiently diversified, while they are free from the listlessness which is apt to follow desultory exertions; though active and vigorous, they are not so urgent as to fatigue necessarily or exhaust the strength. Nor do they involve generally any very unpleasant or injurious exposure. When the fields are covered with snow, and the streams are ice-bound; when the soil is hardened by frost, when the cold winds whistle and the wintry storm blows loud; he shelters himself within doors engaged in such labor as may be done under a roof, or suspends all toil for a time. When spring unbinds the fountain and thaws the frost and snow, and loosens the solid earth, he breaks up the clods with his plough and harrow, and sows and plants with cheerfulness and hope. During the heats of summer, he may divide his time so as to avoid the noontide glare of the sun, and pass the sultriest hour in the shade; the mornings and evenings of the lengthened day being sufficient for his out door work. The declining and mellow autumn calls him again into the field to gather the fruits of his labor in the glad harvest home, after which he again prepares and enriches the soil. Such is the charming picture of agricultural life given us by the poets and rustic writers of England, and applicable as well to the eastern, middle, and north-western States of this continent. Far different, however, is the planter's life of our south and south-western territory."

In concluding this too short and incomplete notice of Dr. Dickson's Elements, in which our principal object has been to exhibit the author's reasons for his belief in the contagious nature of yellow fever, cholera, &c., we would take occasion to recom-

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mend it to the profession as a work containing much varied information conveyed in a very agreeable style.

A Practical Treatise on the Diseases of the Eye. By WILLIAM MACKENZIE, M. D., &c., *to which is prefixed an Anatomical Introduction, Explanatory of a Horizontal Section of the Human Eye-ball.* By THOMAS WHARTON JONES, F. R. S., &c., *with one hundred and seventy-five illustrations. From the fourth revised and enlarged London Edition. With notes and additions,* by ADDINELL HEWSON, A. M., M. D., &c. Philadelphia: Blanchard & Lea. 1855.

If the number of editions through which a work has passed be any criterion of its merits, and there can be little doubt that, in most instances, it is a very safe one, Dr. Mackenzie's Treatise on the Diseases of the Eye is entitled to very strong claims upon our attention. It has passed through three large editions in England and is now in its fourth; and has been twice re-produced in our own country, besides having been "translated and published in the three best known languages of modern Europe, German, French, and Italian." So general and marked a testimony to the estimation in which it is held throughout the whole civilized world, ought to be sufficient, we think, to satisfy any one previously ignorant of its qualifications of its trustworthy character.

A large amount of new matter, the author states, has been added by him, to bring the work up to the level of the present state of the science. Additional wood cuts have also been inserted, and, under each head, he has introduced the most remarkable synonymes, with special references to those works where the most truthful pictures of the disease may be found.

The chief peculiarity of Dr. Mackenzie's Treatise consists in its numerous references to other writers, and in the copious supply of its cases. In these respects it has no equal in the English language. By the student desirous to obtain a *thorough* acquaintance with any one subject, and by the busy practitioner, anxious for more detailed instruction than is usually to be found in systematic treatises, these aids will be estimated at their proper value. Who is there, indeed, that has not felt the want of quick and accessible information on such matters?

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Its other and rare merits, the sound and excellent principles it inculcates, and the good judgment shown throughout, make it a safe and efficient guide for the student.

The Editor informs us in his preface that—

"Numerous wood-cuts have been inserted, and such additions have been made as, it is hoped, will prove acceptable to the American reader. They relate chiefly to matters of a practical character, and are embraced in brackets, with the initial H. appended. Amongst these will be found a short account of the ophthalmoscope, and the various conditions which have thus far been revealed by its use, and to which the author has scarcely alluded."

The Editor's additions are generally brief. They are upon the subcutaneous division of the periosteum; the use of red oil for the prevention of a black eye; the advantages of the "Donna Maria gauze" as a dressing for wounds of the eye-lids: a description of Mr. Wilde's ring-forceps; of Mr. Himly's Entropion forceps; M. Desmarres' method of everting the upper-lid; the use of a series of probes (Dr. Hays' method) for obstruction of the puncta; the employment of tubes of ivory, (Dr. Pancoast's plan), for styles; Dr. Macdonald's method of determining slight strabismus; a case of the removal of a piece of iron from the cornea; arguments for disbelief in the metastasis of gonorrhœa; scrofulous abscesses of iris, with a case; pathological changes revealed by the ophthalmoscope in the choroid, vitreous body, &c.; the proper mode of using blue-stone; Dr. Pancoast's method for displacing hard cataract; Dr. Hays' improvement of the cataract needle; Jaeger's keratome, &c. In his account of the ophthalmoscope he very properly guards his reader against expecting too much from the use of that instrument, considering its employment, unless in those cases where disease is confirmed and incurable, as both injurious to the eye, and liable, from its producing an excited condition of the structures examined, to lead the observer astray. "In these incurable cases, though," will be found the great value of the instrument; for it, and it alone, will often enable us to set aside, as Mr. Dixon justly observes, "as positively hopeless, a large number of cases formerly termed '*amaurotic*' or '*nervous*,' which were assumed to be curable, because their real nature could not be demonstrated."

In a late excellent review of Mr. Dixon's work in the Edinburg Medical Journal, the writer, speaking of this instrument

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says, "To a hopelessly disorganized eye, little can be done; here it may be curious to see what changes have taken place in the retina and vitreous body; but when there is still a possibility of vision being saved or improved, we hold that it is injudicious to irritate the retina, by concentrating more light upon it." Then quoting Mr. Dixon's language as above given, he adds, "we much question if it will be found of any real practical utility." In which opinion we most cordially agree.

The editor states in his second note, that the whole proper substance of the cornea "consists of a mixture of yellow and white fibrous tissue." With our understanding of the physiological and anatomical properties of yellow fibrous tissue, we cannot comprehend how this can be. Its tissue is peculiar according to Kolliker, consisting "of a fibrous substance, closely allied to connective tissue, but which, according to J. Müller, affords, when boiled, not *gelatin* but *chondrin*."

For our own part, we are free to confess, that we consider the addition of notes to such a work as Mr. Mackenzie's mere supererogation. As a general rule, we prefer, and we think the profession prefers, to read a reprint as it comes from the writer, without any additions. They interrupt the continuity of the narrative, are often trifling in their nature, or such as would naturally suggest themselves to the mind of the reader, and occasionally, though we do not wish to be understood now as referring to the work before us, they intrude opinions entirely at variance with those of the author. We except, from this censure, such works as have been essentially altered in their character by the authorised emendations of the editor, or where the original is out of print, or the author dead, especially where the editorship is in the hands of those whose experience eminently fits them for the task.

The fact is not to be denied that the manner in which foreign works are usually edited in this country, is anything but creditable to those who undertake that office. Without now questioning the propriety of their assumption of duties unsanctioned by the author, they too seldom give us the results of American science, or much less, of extensive reading. To correct the proof sheets, and add a few notes, seem to be considered all that is necessary. We could mention works where the additions have not amounted

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to more than a page or two, and yet the editors' names are in the title page, and the books are partly called after them. The same notes, also, (we know them by heart,) but slightly altered, are repeated in certain works *ad nauseam*. It is very desirable that all this should be changed, and that these gentlemen should be held to a much stricter accountability.

The typography and illustration of the book are excellent.

A Manual of Clinical Medicine and Physical Diagnosis. By T. H. TANNER, M. D., &c., Physician to the Hospital for Women, &c. To which is added the Code of Ethics of the American Medical Association. Philadelphia, Blanchard & Lea, 1855.

This compact little volume is admirably calculated to guide and direct the student in studying disease at the bed-side. It embraces in its several chapters, the clinical study of disease; the instruments employed in the diagnosis of disease; disease: the various circumstances which modify disease; the symptoms and signs of disease; the physical diagnosis of disease; general observation of the diagnosis of thoracic diseases: the diagnosis of diseases of the skin: parasitic worms found in the human body: and the chemical and microscopical examination of the blood, expectoration, vomited matters and urine.

It is simply and clearly written, briefly, and to the point, and contains in a small compass an uncommon amount of useful information.

We trust that it will meet with the success it so richly deserves.

The Physician's Visiting List, Diary, and Book of Engagements for 1856. Philadelphia, Lindsay & Blakiston, 25 South Sixth St. above Chestnut.

We believe that no physician who has once used the "Visiting List," would ever afterwards like to be without it. To those who have never employed it we can recommend it, from personal experience. It contains an Almanac, a table of poisons and their antidotes, a table for calculating the period of utero-gestation and blank leaves for visits, memoranda, engagements, &c.

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Abstract of Meteorological Observations for September, 1855, made at Philadelphia, Pa. Latitude 39° 57′ 28″ N., Longitude 75° 10′ 40″ W. from Greenwich. By PROF. JAMES A. KIRKPATRICK.

1855. September.	Barometer. Daily Mean	Barometer. Mean Daily Range.	Thermom. Daily Mean	Thermom. Mean Daily Range	Dew Point 2 P.M.	Force of Vapor 2 P.M.	Rel. Humid. 2 P.M.	Rain.	Prevailing Winds.	Remarks.
	Inches.	Inches.	Deg.	Deg.	Deg.	Inches.	Hunds.	Inch.	Points.	
1	30.104	.125	76.8	9.2	71.4	.767	.73		SW.	M. *cl'dy*; aft. and ev. clear.
2	29.924	.180	80.5	3.7	71.9	.781	.66		SW.	Clear.
3	29.952	.037	70.0	10.5	61.5	.546	.67	0.685	NE.	Cloudy; aft. and ev. *rain*.
4	30.060	.109	65.7	4.3	61.6	.549	.89		NE.	M. and aft. *rain*, ev. clear.
5	30.096	.195	66.8	4.2	53.4	.409	.50		(Var.)	Clear.
6	30.181	.103	67.0	3.2	56.0	.450	.52		(Var.)	Clear.
7	30.142	.037	69.0	2.7	59.8	.515	.61		SW.	M. fog; aft. and ev. clear.
8	30.080	.162	77.2	8.2	63.2	.570	.47		SW.	Clear.
9	29.894	.086	81.3	4.3	70 5	.746	.58		W.	Clear.
10	29.896	.024	78.3	3.5	68.2	.689	.57		W.	Clear.
11	29.922	.026	81.0	3.3	68.8	.704	.55		SW.	Clear.
12	29.894	.053	83.7	2.7	70.6	.749	.53		SW.	Clear. *Therm. highest* 90°
13	29.853	.078	80.2	5.2	70.5	.746	.58	0.317	(Var.)	M. cl'dy, aft. *rain*, ev. clear.
14	30.047	.194	69.2	11.0	54.8	.429	.51		NE.	Cloudy.
15	29.996	.051	70.7	2.2	65.0	.618	.76	0.048	E.	M. & aft. *rain*, ev. clear.
16	29.866	.131	72.3	1.7	69.9	.730	.81	0.09	NW.	M. *rain*, aft. cl'y, ev. clear.
17	29.894	.029	77.3	5.0	65.3	.624	.58		SW.	M. cloudy, aft. & ev. clear.
18	29.705	.223	80.8	3.5	69.4	.717	.58		SW.	Cl'dy. *Bar. lowest* 29.613
19	30.102	.397	59.3	21.5	43.9	.287	.45	0.400	NE.	M. *rain*, aft. and ev. clear. *Therm. lowest*, 45°
20	30.171	.103	58.8	0.8	48.8	.345	.54		NE.	M. clear; aft and ev. cl'dy. *Barom. highest* 30.224.
21	29.970	.201	66.3	7.5	63.2	.578	.85	0.438	SW.	M. cl'y; aft. ev. *a n't. rain*.
22	29.859	.117	68.0	2.3	64.0	.595	.76		(Var.)	M. and aft. cl'dy; ev. clear.
23	30.102	.244	61.3	6.7	51.0	.375	.59		NE.	M. clear; aft. & ev. cloudy.
24	30.193	.057	60 2	2.2	49.6	.355	.53		NE.	Clear.
25	30.023	.170	63.7	3.5	58.4	.490	.63		SW.	Clear
26	29.747	.276	70.3	6.7	62.4	.564	.61	0.686	SW.	M. & aft. cl'y; ev. & n't. *rain*.
27	29.808	.157	64.2	7.8	49.4	.353	.48		NW.	M. cl'dy, aft. and ev. clear.
28	30.062	.254	59.5	4.7	45.1	.300	.49		NW.	Clear.
29	30.100	.042	60.5	4.3	50.8	.372	.49		(Var.)	Clear.
30	29.916	.184	66.0	5.5	63.3	.581	.71	1 465	NE.	Cl'dy; aft. ev. & night *rain*.
Means for Sept., 1855	29.982	.135	70.2	5.4	60.7	.551	.61	4.129	N. 67° W. 17-100.	
Means for Sept., 5 yrs.	30.000	.132	68.4	5.7	54.3		61.	3.690	West 36-100.	

The Monthly Range of the Mercury in the Barometer was 0.601 of an inch, and in the Thermometer 45°.

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THE

MEDICAL EXAMINER.

NEW SERIES.—NO. CXXXII.—DECEMBER, 1855.

ORIGINAL COMMUNICATIONS.

Case of Poisoning with Arsenic, attended with remarkable delay in the appearance of the symptoms. By EDWARD HARTSHORNE, M. D.

The following brief sketch of a case of self-inflicted poisoning terminating favorably, is worthy of note, on account of the very unusually long interval that elapsed between the swallowing of at least one drachm, if not two, of arsenious acid, and the appearance of the first decided symptoms of its poisonous action.

I am indebted to the attending physician Dr. Hershey, and to Dr. Griffith, also in attendance after the first day, as well as to the patient herself and to the inmates of the room adjoining hers, for the account of the first four days of her case.

From this it appears that she was a strong, healthy woman, about twenty-two years of age, of a rather excitable nervous temperament, and headstrong impulsive disposition; that she had been subjected for some time previous to great mental agitation, through the threatened withdrawal of an acknowledged admirer, and that under this excitement she had suffered occasional attacks of hysterical spasms. According to her own representation, she had eaten and drunk very little throughout the

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week ; and on Thursday, the twenty-ninth of March, 1855, she took no food or drink except one cup of coffee at breakfast time. She spent the day in a state of desperation, most of the time on foot, first in seeking an interview with the delinquent lover, and then in procuring from an apothecary, at a long distance from her dwelling place, a paper of arsenic. Her absence from home all day, and her entire abstinence while at home, were testified to by the other inmates of the house. At nine o'clock in the evening of the same day, she had retired to her room, and was heard by the two occupants of the adjoining chamber to be gagging and choking so violently and in such a peculiar manner, that one of them knocked at her door and inquired if there was anything the matter with her. She returned an evasive answer, and remained apparently quiet throughout the night. She kept in bed the next morning, and refused her breakfast, but attracted no special attention until nine o'clock, when the same sound of gagging and choking was heard in her room a second time. In the course of the succeeding two hours an hysterical paroxysm came on. It was then ascertained that she had taken poison, and Dr. Hershey was immediately sent for.

He arrived at 11 o'clock, A. M., just fourteen hours after the first dose had been taken, and two hours after the second. At this stage of the proceedings nothing definite could be learned from her admissions or complaints. She lay in a state of partial cataleptic stupor, occasionally varied with slight muscular spasms such as are common in ordinary hysteria, and seemed to be unwilling or unable to answer questions. The customary effects of irritant poison were so entirely absent, that Dr Hershey was induced to order an anti-spasmodic potion of some aromatic tincture in camphor water, on the supposition that the attack was a purely nervous one alone. Of this draught she took some four tablespoonfuls, at intervals, in the course of two hours. According to her own repeated assertion, which there is no reason to disbelieve, it was the first fluid which she took into her stomach during at least thirty-six hours—that is for twenty-four hours before and some twelve or thirteen hours after the taking of the evening portion of the arsenic. No change beyond the abatement of the hysterical symptoms occurred until one o'clock in the afternoon, about two hours after

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she had swallowed the first of the camphor water, when the doctor was hurriedly recalled on account of the sudden onset of violent pain and vomiting. The most frequent, and in this instance, at that time, the only positive, symptoms of arsenical poisoning had at last presented themselves, sixteen hours after the first powder had been swallowed, and four hours after the second.

The fresh hydrated oxide of iron was immediately given and continued, in divided doses, to the amount of five ounces; but notwithstanding this and the free use of sulphate of morphia and cold mucilaginous drinks internally, and of depletion with cups and the subsequent application of cataplasms and a blister externally, the pain and vomiting increased in severity and frequency until the afternoon of Sunday, the third day. She then appeared to be so utterly prostrated that no hopes were entertained of her recovery either by herself or her physicians. A paper containing a portion of the white arsenic of the shops had already been found in her room. The apothecary had been visited, and had confirmed her story as to its purchase on the preceding Thursday. The amount remaining in the packet had been compared with the quantity stated by her to have been swallowed. Questions were again asked her, when she was supposed by all to be in extremis, and were answered as frankly and fully as could be desired. These answers being given under the impression that she was at the point of death, are fairly entitled to belief for that reason alone; but they were corroborated wherever possible by other testimony, and invariably supported by her own statements in answer to the repeated and varied cross-questionings to which she was subjected by her medical attendants during convalescence, and after every inducement for a perversion or suppression of the truth had been removed.

The history thus gathered from the patient and her friends, was, in a few words, that her whole mind had become absorbed in the thought of her troubles, and the desire to end them in the grave; that with this intent, having secretly provided herself with arsenic, and retired to her room after a whole day of fasting and agitation, she attempted to swallow a teaspoonful of the dry powder and was so irritated in the throat by it as to alarm her neighbors. She coughs out a part of it, but manages to retain about half-a-teaspoonful. She lies down, as she

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expects, to die, but spends the night without any change whatever, and, as she thinks, without sleep. The next morning she swallows another half-teaspoonful in the same manner and with the same difficulty. Soon after this last attempt, she loses her self-control, becomes hysterical, and announces her probable fate to the family who come to her aid. During all this time, however, she feels no nausea, thirst or pain, and has not the slightest idea of the agony she is shortly to endure. It is not until after she has taken several drinks, that she begins to realize the horrors of her situation. Her entire ignorance of the effects of arsenic was fully demonstrated, and of itself afforded satisfactory proof that, although intelligent and tolerably well educated, as well as a determined girl, she could not possibly have simulated her disease, or so contrived to regulate the dose as to effect a partial poisoning only. The symptoms, however, were too well marked in their course and violence to admit of any doubt as to the existence and progress of an irritant poison. Nothing more was required to demonstrate the presence of arsenic, except the chemical examination of the matter thrown up from the stomach, and of the fæces and urine. Unfortunately, this examination was not made. My attention was first called to the case on the evening of the third day, Sunday. The vomiting and pain had then ceased. Reaction had begun, although the patient was still in a partial collapse, with feeble, quick pulse, pale sunken countenance, cool, moist skin, great muscular debility, and a tendency to hebetude with occasional temporary cataleptic spasms. The pharyngitis, tympanitis and epigastric and hypogastric tenderness were very well marked. These gradually subsided, and were accompanied and succeeded by similar evidences of inflammation running along the course of the colon down to the rectum, and going off with tormina, tenesmus, bloody stools, hemorrhoidal irritation and strangury, and followed for a few days by an acne-like eruption of the skin.

The treatment, which was demulcent, anodyne and cautiously supporting, with a gradually improving regimen, need not be particularly detailed. The youth and general health of our patient secured her a comparatively rapid convalescence. By the end of five or six weeks, she had recovered her former flesh and

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color, and appeared to have escaped with unimpaired gastric and intestinal functions. The only difficulty that remained, was a debility of the lower extremities, amounting to a partial paraplegia, and a relaxed condition of the pelvic organs, which led, on two different occasions, to a painful retroversion of the uterus. Both of these infirmities, however, were so far removed in the course of another month, that, at the latter part of June —within three months after her attempt—she considered herself perfectly restored to health.

It was of course impossible to determine the amount of arsenic actually swallowed in this instance. A sufficiently near estimate, however, was reached through the patient's own statement, made under circumstances that afforded no inducement for deception, and confirmed to a considerable extent by her fellow-lodgers, and by the apothecary who furnished the packet from which the two portions must have been taken.

Supposing her to have retained no more than three quarters of a teaspoonful altogether, which is the smallest probable amount, she must, according to the approximative measurements given by Taylor, have been exposed to the destructive action of at least one hundred and twelve grains in all, and to that of fifty-six of these grains, thirteen or fourteen hours before the appearance of any nervous symptoms, and just sixteen hours before the accession of pain, vomiting and thirst.

The cerebro-spinal demonstrations presented nothing sufficiently different from those of ordinary hysteria to warrant their being regarded as the narcotism sometimes produced by arsenical intoxication. Still, allowing these disturbances to have been the premonitory signs of more serious poisonous action, we yet have an interval of fully thirteen hours' duration, after the ingestion of nearly a drachm of the acid without the advent of a single irregular sensation.

Cases are reported in which arsenic has begun its work at once upon its victims. More frequently, a few minutes have elapsed; but the average period at which the deleterious operation generally begins to manifest itself, is stated to be from half an hour to an hour. Taylor refers to a case communicated to him by Mr. Todd, in which no symptoms appeared for two hours, after one drachm had been taken on an empty stomach. Orfila relates one

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in which five hours passed, after more than half an ounce had been taken, without decided mischievous effect; Devergie reports an interval of four hours; Taylor quotes another of nine hours duration, and one from Belloc, (see Taylor On Poisons, p. 259,) in which the symptoms did not present themselves for ten hours. This last is the longest instance of uncomplicated freedom from noxious symptoms hitherto on record. There are others besides these, of different periods of protraction, which need not be detailed. The case of Tonnelier, (see Orfila, Toxicologie, 1, 386,) although very remarkable, is not entirely free from doubt, as an instance of retarded progress in arsenical poisoning. That of Clegg, also, (see Taylor, Med. Jurisp. 76,) can hardly be included in the class, because it must have been affected by the modifying influence of opium upon the arsenical irritation. I have not been able to find, in the Journals, any analogous cases not already cited in the works on medical jurisprudence; and I am, therefore, inclined to believe that our patient stands alone in her experience, so far at least as the published annals of toxicology have gone.

The bearing of such experience on the medical evidence in certain criminal cases, may be easily understood. Christison expressly recognizes the importance of it in his work on Poisons, (p. 237,) and refers to a trial, in which a woman escaped conviction, principally because "the symptoms of poisoning did not begin until more than eight hours after, the only occasion on which the prisoner was proved to have administered anything in a suspicious manner." "As I was not at that time," continued he, "acquainted with any parallel case, except that recorded by Orfila, I hesitated to ascribe the symptoms to the draught; and, consequently, as the other medical witnesses felt the same hesitation on the same account, the proof of administration was considered to have failed. I am not sure that I should have now felt the same difficulty."

Our case seems to me to possess considerable interest, also, in a physiological and pathological point of view; but as my object is especially to report the observation for what it may be worth in questions of medical evidence, I must leave to the ingenuity of other inquirers, all speculations as to the cause and nature of the delay of gastric disorder under the peculiar circumstances stated.

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GLYCOGENIA.—THE SECRETION OF SUGAR IN THE HUMAN ECONOMY.

By Bernard Henry, M. D.

The present would seem to be an opportune moment for the examination of the question of the production of sugar in the system, and its physiological and pathological import.

It is now more than six years since Mr. Claude Bernard announced to physiologists, that sugar is a normal secretion in man and animals, and maintained by experimental proof that this function has its seat in the liver. The disease, diabetes mellitus, in which grape sugar appears in the urine, had been studied and observed with much attention ever since the time of Willis, in 1674, but its pathology was still obscure, and various causes had been assigned to it.

The question, as it now stands, has been placed before the world in the work just published by the distinguished teacher above mentioned: "Lectures on Experimental Physiology applied to Medicine." Its appearance had been preceded by some controversial writings on the subject it embraces, and it is interesting to examine and ascertain what position its doctrines occupy at present.

It was in an Inaugural Thesis, published in December, 1843, that Mr. Bernard first made known his researches on the production and destruction of sugar in the system. Like many other discoveries in science, the first facts on this subject presented themselves during the investigation of other phenomena. It is in this manner that inductive and experimental physiology has so much and so frequently contributed to the developement of medicine.

Chemistry had insisted that all the principles met with in the organism, must be traced from substances, capable of corresponding metamorphoses by the formula or in the laboratory of the chemist; and that thus, every organic compound to be formed in the body, should be a derivative by oxidation or by re-arrangement of atoms, of that which had been formed exteriorly; that the animal fabric was capable only of destructive metamorphosis, and that the saccharine principles occurring in the economy owed their origin only to the vegetable constituents of the food. It was from this, that Prout assigned the presence of sugar in diabetes mellitus to the imperfect transformation and assimilation

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of the starchy elements of nutrition, considered it a defect of the digestive functions, and called away the attention of pathologists from the kidneys, which had been previously accused in this disease. These organs which had so frequently been found inflamed, diseased, and even destroyed, worn out by their efforts to eliminate a substance that was in excess in the blood, had been regarded as primarily at fault, and responsible for all the phenomena of the disease; the other organs were not made the objects of proper examination. It is physiology which has taken up the task and done so much for this interesting subject; but it is yet incomplete; the knife of the experimenter, it is true, has laid bare the seat of the production of animal sugar, and has shown us where it always exists in the system in health; it is the scalpel of the pathological anatomist, now, that must continue the work, and point out the lesions in the diseases with which the subject is associated; one which appears to be singularly deficient in records of post mortem observations, as well as intractable by known remedies; and it is to call attention to these circumstances that our remarks are made.

As regards the internal production of sugar in animals without the intervention of saccharine or amylaceous food, that a substance, previously supposed to be elaborated only in the plant, should be formed in animals, does not, at the present day, appear singularly remarkable, since the production of cellulose, a vegetable tissue in the structure of lower animals, and even in the nervous system of man is now a well-admitted fact. (Virchow.)

The first proposition announced by Bernard was, that in dogs which had for months been fed solely on meat and then killed, glucose (grape sugar) was found in the blood of the hepatic vein, and in the liver, but could not be detected in the blood of the vessels leading to that organ. Hence, he drew the deduction that the liver is the laboratory for its production, as well as the demonstration of the fact that sugar can originate in the organism, independently of an external source, that is, of sugar-yielding vegetable aliment; that it is a true secretion, and as later experiments have proved, subordinate, as the functions of other glands are, to the nervous influence.

The points then to be inquired into and determined were: What proofs have we that the liver is the sole producing organ?

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what are the materials and conditions for its production? what physiological office does glucose perform in the economy? what are the causes of its accumulation in the blood and appearance in the urine in disease? and from these facts to form a rational plan of treatment of diabetes mellitus.

In 1778, Cowley first isolated the saccharine principle of diabetes; but it was not until 1815, that the demonstration was made by Chevreuil, that this sugar is identical with the sugar of fecula or grape sugar, belonging to a class which form a separate group from those which are represented by cane sugar.

These first are all recognizable by the caustic alkalies, by the addition of which and heat, they are converted into peculiar brown acids; those of the other class are not thus affected. This, however, is not a good test in fluids containing organic substances, as the blood and urine.

Trommer ascertained that glucose has the property of decomposing certain salts of copper in the presence of an alkali. If the liquid be heated, the oxide of copper is precipitated of a characteristic yellow orange, or brick dust color; he ascertained, also, that this does not occur with cane sugar.

A modification of this, consisting of a solution of the double tartrate of copper and potassa has been proposed by Barreswill, and is the one recommended and used by Bernard in his experiments. If this be added to a solution of glucose, it loses its blue color, and on heating the liquid, there is formed the yellowish red precipitate of the oxide of copper. The quantity of the test fluid to be added, should be in proportion to the amount of glucose suspected to be present, in order that reduction of the salt of copper be complete and the characteristic color obtained.

It should be borne in mind, that cane sugars are by acids converted into grape sugars, so that if an acid have found its way into the mixture, this test would reveal also the occurrence of of sugars of that class.

Charcoal is the best means of decolorizing any fluid and freeing it of all subtances, as uric acid, dextrine, &c., which might interfere with the reactions of the double salt of copper. In consequence of the objections that have been made to these tests, and which will be considered shortly, it is important and desirable to employ the fermentation test, by the addition of yeast to

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the suspected liquid, for the production of alcohol and carbonic acid from the glucose present.

The presence of sugar in the liver is now an undeniable fact. It may be made apparent with facility in a decoction of the viscus, by any of the above tests, as has been frequently done by the writer. This glycogenic function would appear to exist in all the animals as well as man, thus far examined. Its proportion in the physiological state does not vary much. The mean is about 2 per cent. for the entire weight of the liver in mammalia and birds. It is said to be less in reptiles, and still less in the mollusca. Its existence may easily be determined in these last, by using several livers, making a concentrated decoction, decolorizing by charcoal or sulphate of soda and employing the tests of copper, fermentation, &c.

The animals must be killed in full health, as in chronic diseases, shortly before death, this function of the liver, like those of the other organs, ceases. It is for this reason that the livers of subjects in the anatomical rooms will not yield glucose. Mr. Bernard has had the opportunity of examining the livers of six persons who had met with violent deaths whilst in full health, executed criminals, &c. In all of them, the liver yielded glucose, which could not be detected in any of the other organs.

The liver, then, is the only organ furnishing this substance, and the question naturally arises, whence does it obtain it? does it originate in its tissue, or is it carried there in the blood? The inference drawn from the capital experiment of Bernard, viz., that the blood of the vessels entering the liver did not yield glucose, whilst that leaving that viscus yielded it freely, and which would seem to point out, with precision, the starting point of this principle, has not been admitted without modification and opposition.

According to the experiments of Poggiale, a dog fed on a mixed diet, or a diet of bread alone, and then killed, gave evidences of glucose in the blood of the portal vein, in that of the inferior cava, and even of the arteries. The proportion of glucose in the hepatic vein is said not to have, in any degree, exceeded that in the vessels entering the liver. In this case, this substance would appear to have found its way from the stomach and alimentary canal into the circulation, for in animals fed exclusively on flesh, no glu-

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cose could be detected in the vena portarum by the same observer. In experiments performed by Mr. Bernard and Mr. Leconte, and at which the writer assisted, glucose did not appear in the blood of the portal vein, if care were taken to prevent its *reflux from the liver*, whilst it was abundantly furnished by that of the hepatic vein. The animals in these, as in the above case, had been on an exclusive diet of flesh for many months. This would appear conclusive as to the liver originating the glucose. The first experiments of Mr. Poggiale confirm what might have been expected; that in animals living on a mixed alimentation, the food will also furnish sugar in the blood. Hence there would be for man a double source. In herbivora, it is stated by Mr. Colin, of Alfert, that sugar exists in the blood, in the chyle and in the lymph, the saccharine portions of the food furnishing them to the portal veins and chyliferous vessels. He further adds, however, that in the carnivora proper he found that an animal diet furnished sugar to these vessels during digestion?

The strongest opposition to Mr. Bernard's experiments has recently been made by Mr. Figuier, Assistant Professor in the School of Pharmacy in Paris, and it is to him that his recent rejoinders have been directed. This gentleman had asserted, as a fact, that the presence of albuminose may interfere with the precipitation of oxide of copper in a fluid containing glucose, (the test of Bernard and Barreswill,) and that it is the existence of this principle in the portal blood, which masks the presence of grape sugar. He precipitates the albuminoid substances by alcohol, and recommends the addition of a small portion of acetic acid, to neutralize the carbonate of soda present. With these precautions, he insists that glucose can be detected not only in the blood of the portal vein, but in that of the entire system. Mr. Figuier says that he has verified these facts by more than thirty carefully conducted experiments; and he further adds, that for equal weights, the liver can be said to contain scarce twice the amount of glucose to be found in other parts of the body. According to this gentleman, in Bernard's experiments, the flesh of beef and mutton on which the animals were fed, contains glucose, and thus the substance sought was administered to them in their food.

True, it is, that in Mr. Bernard's doctrine of digestion, albuminose derived from the digestion of meat, is conveyed by the portal

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vein to the liver, and is there reconverted into albumen, which does not, like albuminose, mask the reactions of the salt of copper and potassa with glucose and heat.

The liver, in the opinion of Mr. Figuier, is a reservoir in which animal sugar is stored up, not manufactured; and he strengthens his view by the following experiments:

A dog, which had been fed exclusively on animal food, was killed, *two hours* after the last meal; that is, during digestion. The blood entering and leaving the liver was examined, that of the portal vein gave for 100 pts. 0.248 of glucose; that passing from the liver gave but a trace. Repeating the same experiment *four hours* after the last meal, that is, when digestion was more advanced, analysis gave:—

For the blood of the portal vein, (100 pts.) = glucose 2.31
" " veins beyond the liver,= " 0.304

In an animal kept fasting, the blood of the portal veins gave not a trace, whilst that of the hepatic vein was rich in glucose. In the circle, then, of the circulation, says this observer, the supply obtained from the liver is consumed in respiration, and a fresh amount is furnished to the blood each time that it passes through that organ.

The discrepancy in the results obtained show the want of additional tests for glucose; the fermentation test is useful only where there is a notable proportion of this substance present. The changes of color exhibited by the copper test may be more or less intense, and give rise to uncertain conclusions. The commission appointed to decide on the question have pronounced against Mr. Figuier's analyses, as he did not make use of the fermentation test as well as the others in his experiments.

Longet also has found that the presence of completely digested albuminoid substances masks the reaction of the copper test with glucose. He says that he detected, by the fermentation test, this principle in the blood of the portal vein in cases where it was not revealed by the double salt of copper and potassa, and even when it had been detected in the alimentary canal and in the hepatic vein by the ordinary means. Hence, he considers that some further method of experimenting must be found before the glycogenic function of the liver, based upon the evidences

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furnished by the present chemical reagents, can be unqualifiedly adopted. His language is:—"When the product of the transformation of an azotized aliment by the gastric juice is in considerable quantity, and the glucose in small proportion, the tartrate of copper and potassa, potassa, the polarimeter, alcoholic fermentation, in a word, none of the means now in use can demonstrate positively the existence of this saccharine principle."

Mr. Lehmann has come forward to support Mr. Bernard's view by his own experiments. He invariably makes use of the fermentation test in addition to the others, and finds that the blood of the portal vein in dogs that have been kept fasting or fed only on meat does not contain the slightest trace of glucose; a vegetable diet causes its appearance in these vessels in small proportions only. In horses fed on grain the proportion was also very small, but in both horses and dogs glucose was abundant in the blood of the veins leaving the liver. The other experiments of Mr. Lehmann show also conclusively that sugar disappears in the blood, and that the further we proceed from the liver in the circulation, the proportion decreases. It is most abundant in the hepatic vein and in that of the vena cava above the junction of that vessel, but in the right side of the heart it becomes intermingled with the blood of the vena cava descendens, which contains no sugar, and thus the proportion is there diminished. It can then be traced into the lungs, where it generally disappears.

The liver then is a secretory organ having a double function, that of producing bile and also sugar. The secretion of sugar is a true secretion, not an excretory function, as that of urea by the kidneys; for in these organs urea is found in the blood entering them but not in that which flows from them, the reverse of that which occurs in the liver with regard to glucose. That this secretion may be considered as under the control of the nervous influence is well shown by the experiments of Bernard, and since repeated by others, that if the floor of the fourth ventricle be punctured in an animal an artificial diabetes mellitus is established.

This well known fact is most important to be borne in mind, as it may afford a clue to the comprehension of the pathological state of this function. There must be in health an equilibrium between the production and the destruction of glucose. If more

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is supplied to the lungs than they can get rid of, it will appear in the blood beyond the pulmonary apparatus, and be removed from the general circulation by the kidneys. This is frequently and even constantly occurring in the normal state. There is after a mixed meal the fabrication of glucose to a greater amount than during fasting, and more than is consumed in respiration, and during digestion we may have a temporary glycosuria. Patients should be examined then whilst fasting, and the examinations repeated and an average result obtained before we can determine on the amount of disease. The strong sympathetic relation between the glycogenic function of the liver and respiration is abundantly proved. If the pneumo-gastric nerve be cut and the extremity nearest the brain be irritated, there takes place an excessive production of glucose as indicated in the urine; there is an impression made on the cerebral centre, and reflected through the fibres of the sympathetic accompanying the vessels of the liver, which influences the production of this principle. The impression made is similar to the excitation arising from the demands of the lungs.

This sympathy, though demonstrable, is not readily explained. We see a confirmation of it in diabetes mellitus, in which death so generally occurs from pulmonary apoplexy or phthisis. In the triad of the liver, the lungs and the nervous centres, it is difficult to isolate the incipient phenomena so as to ascertain the starting point of disease. There is an unfortunate dearth of cadaveric reports on this subject. The disease in question is not a common one, its commencement is often insidious and unheeded, and it is rare that we have the consecutive phenomena described *ab initio*. That lesions of the nervous system may give rise to diabetes mellitus has been observed by Doctor Goolden, who has collected some very interesting cases, one in particular, in which it followed a blow on the back of the neck. This and the others were relieved by directing remedies to this portion of the system; and a case has fallen under our notice in which a patient first exhibited symptoms of a spinal adynamia, followed by pulmonary disease and asthma, and in whom the urine subsequently gave evidence of abundance of glucose.

The medulla oblongata was in this instance apparently the first at fault in the chain of morbid phenomena. More extended patho-

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logical observations may throw light on the order of events in the physiological problem. That the causes assigned by Prout are insufficient, and that the liver can produce glucose from the nitrogenized material conveyed to it by the blood is unquestionable. Lehmann's experiments would show that in any event the amount of sugar conveyed in the portal vein under any diet is but a fractional part of that which leaves the liver, and corroborates Bernard's doctrine.

In the dearth of pathological information, it is gratifying to be able to refer to some facts recently put forth by so reliable an authority as Andral. In eight autopsies of persons who died of diabetes mellitus, he found the liver redder and more full of blood than usual; it was also more uniformly red, showing the increased functional activity of that organ. He adds the following interesting statements as regards the results of dietetic treatment. Entire abstinence from food will diminish and sometimes suppress the appearance of sugar in the urine; but he found also that a change of diet, whether it be the addition of vegetable aliment or its entire subtraction, will at first produce a reduction of the amount of sugar, but this will afterwards regain its usual standard

Lehmann having found that the blood leaving the liver, and which abounded in sugar, was deficient in fibrin and hæmatosin, considered that glucose was formed at the expense of these nitrogenized elements. He succeeded in obtaining from hæmatosin a substance which gave reactions similar to glucose, which confirmed him in the opinion. Frierichs had a similar hypothesis. The opinion that fatty matter furnished the material is no longer sustained. Rollo withheld from his patients all food not of this nature; the sugar was diminished, but the individuals subjected to this regimen were in similar conditions with those who practised perfect abstinence. There can be no doubt but that sugar-yielding food will contribute to the glycogenic production, though not to the extent previously imagined. Bernard states that if amylaceous or saccharine nutriment be administered to a dog, the proportion of sugar in the liver will not be increased materially, but there will appear an opalescent emulsive fluid, the result of the metamorphosis of the starchy materials.

It does not necessarily appear, however, that in disease the

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saccharine matters in the duodenum, the result of digestion, may not pass into the portal vein, be unaffected by the liver, and be thus added to the amount secreted by that organ.

So late as the 24th of September of the present year, Mr. Bernard has brought forward a paper in which he discards all the hypotheses as regards the elements in the blood, &c., from which sugar is produced in the liver. He says that it is the *tissue* of the liver itself which furnishes the materials, and adduces as proof the following experiments. Having carefully removed the liver of a healthy dog, he fastened a water cock to the trunk of the portal vein and allowed water to flow with force through the ramifications of that vessel, and thus through the organ itself, escaping by the hepatic veins. The first portion which passed through yielded sugar abundantly; this was continued until the fluid became colorless and ceased to yield sugar; in fact the liver was completely washed out. The decoction of a portion of the *liver* thus treated gave no sign of sugar. The other portion of the viscus was laid aside for 24 hours, at the end of which time a stream of water was passed through it, which gave abundant evidences of glucose, both by the copper test and fermentation.

This experiment would prove, says the author, that in the liver, in its physiological state, "there are two substances, viz: 1st, Sugar very soluble in water, and which is carried off with the blood in washing. 2d, Another substance sufficiently insoluble to remain in the hepatic tissue after this had been deprived of its sugar and of its blood by protracted washing. It is this last substance in the liver, laid aside, which becomes by degrees converted into glucose by a species of fermentation."

He has by further experiments showed that this matter is insoluble in alcohol and ether. He was unable to detect it in the blood of the portal veins. He considers this discovery as of great value in settling the glycogenic function of the liver, and concludes by the following remarks:

"I wish to show that the sugar formed in the liver is not produced (d'emblée) at once, without intermediate processes in the blood, but that its presence is constantly preceded by a special material deposited in the tissue of the liver, and which immediately precedes its formation." He calls the attention of chemists to the intermediate formations.

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Of the uses of glucose in the animal economy there is no absolute demonstration. Its disappearance in the lungs informs us that it is consumed in respiration. Its transformation into lactic acid is readily conceivable, but is simply hypothetical. That the lactates become converted into carbonates, which are again decomposed by the pneumic acid of the lungs, the CO^2 being set free, is the modern doctrine of physiology. Like the other hydrocarbons and fatty matter, its office must be intimately connected with the production of animal heat.

It is a fact worthy of observation that the livers of birds, (particularly the palmipedes,) which abound in fat, contain also a very large proportion of glucose. In human fatty livers, glucose is always in excess. From the preceding review of the most recent facts and investigations on this subject, we may gather the following conclusions:

That sugar is a normal product in man.

That this principle is secreted in the liver, and that it is a normal function of that organ.

That the source of its supply is from nitrogenized elements.

That the food furnishes it also to the system.

That in the glycogenic function there is a sympathy of relation between the liver, the lungs and the cerebral centre.

That in the disease called Diabetes Mellitus, the equilibrium of the production and destruction is disturbed, and that any one of these three structures may be at fault; and that it is to one or more of them that our remedies must be directed.

That the experiments of Lehmann, Bernard and Andral will warrant the careful allowance of small portions of vegetable food in this disease, and thus relieve our patients from one of the most distressing and trying attendants of the present mode of treatment.

That the labors of the physiologists, and above all, of Mr. Claude Bernard, have paved the way for a better understanding of diabetes mellitus, by demonstrating the condition of the glycogenic function in the state of health; but that close and more extended pathological observations are called for to render his researches available to the physician for a successful plan of treatment of a disease which is rare, but has thus far proved intractable.

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Report of a Case of Malformation of the Colon and Hand.
By Wm. Walters, Frederick, Maryland.

On September 17th, 1855, I was called to Mrs. ———, then in labor, and delivered her of twin daughters between 12 and 10 o'clock A. M. The first-born, who is the subject of this report, presented the appearance of an eighth month child, very feeble, and was soon after birth almost suffocated with bloody mucus. This continued throughout the day, but late at night the bloody appearance ceased, the discharge becoming white. Her limbs and face were livid and her left wrist and hand presented a singular malformation. The metacarpal bone and phalanges of the thumb were entirely absent, and the hand was bent upwards upon the wrist at a right angle, so as to resemble very much a misplaced foot.

On the 18th she appeared stronger and better, breathing much easier. The nurse called my attention to a tumor slightly protruding from the os vaginæ, and to the fact of the bowels not having been moved, although the usual aperient had been given. I attempted to give her an enema of lard and water, but found that it flowed back without being at all tinged with meconium. I now introduced a flexible catheter into the rectum. It passed up easily about four inches, but was then arrested, and an attempt to inject through it resulted as before. Both these attempts induced strong straining and bearing down efforts, with discharge of urine and further protrusion of the tumor at the os vaginæ. The parents positively objecting to any attempts at surgical relief, and believing the case to be one of imperforate colon, I now desisted from further efforts to open the bowels, and stated to them that I thought death must soon ensue. During the day the child vomited four or five times, and made frequent straining efforts and bearing down of the perineum.

19th. Occasional vomiting, straining frequent, but no evacuation of the bowels. Had a convulsion last night.

20th. Symptoms the same.

21st. Died at 2 o'clock A. M., having lived ninety-eight hours.

Autopsy made eight hours after death.

The os vaginæ being entirely closed by the hymen, the ap-

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parent tumor projecting externally between the labia was found to be produced by a fluid retained in the vagina.

On opening the abdomen the uterus was found pushed up above the umbilicus, by the distended vagina; the uterus was enlarged and dilated, the greatest diameter of its cavity being half an inch, and the greatest length one and a quarter inch.

The vagina was three inches long and one inch in diameter, being thus dilated by the fluid referred to above. This was of a creamy color and consistence, and under the microscope appeared almost entirely composed of squamous mucous epithelium.

But the greatest point of interest and evident cause of death, was the anomalous conformation of the intestines. Six and a half inches below the cœcum, the colon terminated in a cul de sac. The small intestine and this portion of the colon were normal in size, direction and condition, except their peritoneal surface, which exhibited high arterial engorgement and in some places inflammation. They contained meconium, with which the small intestine was slightly distended.

The terminating point of the colon was a little below the commencement of its transverse portion, and adjacent to this point it was found again commencing in a cul de sac, and extended thence uninterruptedly seven inches to the sigmoid flexure. The whole extent of this portion was contracted almost to a cord, and was entirely empty. The rectum was also empty and contracted at its upper portion. Its length was five inches.

The surviving twin-sister is a fine healthy child, with no defect or malformation whatever.

On the Use of the Tinct. Ferr. Chlorid. in Uterine Hemorrhages.

By Dr. Frederick Schreier, Physician in Hamburg.

(Translated for the Examiner.)

Experience having shown that all the means generally used for the suppression of uterine hemorrhages—especially when violent—were inefficient, I was induced, after trying various remedies, to employ the liq. stypticus loofi. Not only was my first experiment, made thirteen years ago, attended with success, but I have lately had frequent opportunities of collecting from my colleagues proofs of still more favorable results from the use of this medi-

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cine in their practice. The history of two cases will best illustrate the practical working of the liq. ferr. chlorid.

In the beginning of the year 1842 I was called to visit the midwife B., in Altenwerder, Hanover. This woman, 26 years of age, of delicate constitution, complained of violent pain in the right lumbar region. On examination I observed a swelling, which bore all the characteristics of the first stage of an abscess. After applying the usual means for producing suppuration, it opened and was healed. About 14 days afterwards, Mrs. B. being sent for to attend a woman about to be confined, was obliged to cross the ice on horseback. The horse broke through the ice and the woman fell into the water. On the next day a violent hemorrhage took place, to stop which she used all the well known means, but in vain. Called to see her, I ordered tinct. cinnamon 1—8 teaspoonful every quarter of an hour; with no effect however, as the bleeding continued undiminished. A threatened mis-carriage could not now be mistaken. Weak, irregular labor pains had commenced, and I was satisfied that the fœtus would have to be expelled from the uterus. I now prescribed: ℞. Secal. cornut. gr. x., rad. ipecac. gr. j., alumin. crud. gr. jv., sacch. alb. gr. vj., M. f. pulv., to be given every hour. I ordered the most perfect rest, horizontal position, and laid a cold sand bag over the pubic region. After this the hemorrhage became less.

On the evening of the same day I was informed that not only had the bleeding not ceased, but that it had become much more violent and the woman very weak. I at once ordered: ℞. Decoct. rad. krameriæ ʒvj., tinct. cinnam. ʒβ., syr. cinnamon ʒj., acid phosph. a. ʒij. M. D. S., one teaspoonful every hour, and hurried, suspecting great danger, to the sick woman, whom I found suffering from severe hemorrhage. After examining the mouth of the womb (which was so contracted as to render the insertion of the finger impossible) I applied restoratives (besides injections of cold water, alum and vinegar) after which the bleeding ceased; but for this time also only for a short period; for in the night, toward 12 o'clock, a message was sent to me that the bleeding had again commenced, the patient being entirely exhausted and dying. Upon this I resorted to the energetic measures which I had before used in similar cases with such

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favorable results, namely, injections of diluted liquor stypt. loofi. (about 50 drops of liq. stypt. l. in 3—4 oz. of water). Finding after this injection that no sensation of heat was felt in the womb, that the bleeding was unchecked, and that no perceptible contraction of the uterus had taken place, I now gave, instead of 50, 80 and finally 100 drops in 3 oz. of water. The wished for result at once took place. The passage of black coagulated blood with the fœtus followed the injection. The fœtus appeared about 12—13 weeks old, which accorded with the woman's reckoning. Afterwards occurred gastrosis with tympanitis, &c., &c., which was arrested by the appropriate means, and the patient soon completely recovered. She afterwards described her sensations when the above means were used in the following manner: "Upon the first injection I felt a slight warmth, but upon its being repeated after being made stronger, a most decided heat was experienced in the womb, which increased to a burning sensation, accompanied with a peculiar feeling of motion there, after which I was not aware of any further loss of blood."

I will now relate another case equally interesting.

Mrs. F., at Finkenwärder, 40 years old, of strong constitution, choleric temperament, was seized with a hemorrhage. She summoned an esteemed colleague, Dr. N., in N., to her assistance. After trying all the known and valued means in vain, the patient called me in. I resorted again to the injection of liq. stypt. loofi., for the patient had now become almost anæmic, and I had again the satisfaction of witnessing the successful results of its action. After the third injection—in which were 100 drops of liq. stypt. l.—the bleeding ceased. In consequence of the great loss of blood, general dropsy afterwards took place. The cause of the dropsy was clear, and I treated it therefore with iron and other restoratives, and soon checked it. After the course of three years the woman was again pregnant, and was delivered of a living, mature child.

In cases where paralysis of the uterus occurs, and the power of contraction is wanting, I can also recommend to my brethren, as a safe and effective measure, the use of the liq. stypt. l. In the last year of my practice I used the liquor ferr. chlorid. also for a violent hemorrhage in a case of placenta prævia, where rapid delivery could not be effected, owing to insufficient dilata-

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tion of the mouth of the womb. I applied it in the following manner: I took a compressed sponge (sponge tent) which was cut in the form of the opening of the mouth of the womb, saturated it with the liquor, and introduced it as high as possible into the mouth of the womb, upon which not only was the bleeding checked, but after the course of 6—12 hours, in consequence of the distention, the dilatation was so increased as to allow me to introduce the whole hand and complete the delivery without any injury whatever. And indeed, in my practice I have never in consequence of an artificial delivery lost a single patient. In uterine cancers, where profuse bleeding frequently occurs, the same remedy can also be recommended.—*Monatsschrift für Geburtskunde und Frauenkranpheiten, June*, 1855.

BIBLIOGRAPHICAL NOTICES.

A Treatise on Medical Jurisprudence. By FRANCIS WHARTON, Author of "A Treatise on American Criminal Law," etc., etc., and MORETON STILLÉ, M. D., Lecturer on the Principles and Practice of Medicine in the Philadelphia Association for Medical Instruction. Philadelphia: Kay & Brother. 1855. 8vo. pp. 815.

Medical Jurisprudence, "the science which teaches the application of every branch of medical knowledge to the purposes of the law," would seem to be a subject of trivial importance were we to estimate its value by the little time and attention generally bestowed upon its study. Its claims upon the profession are nevertheless among the very strongest. We grant that its skilful or inefficient exercise may not affect the community so directly for good or evil as may that of some of the other accomplishments of a medical education. Still, it can not be denied that the practitioner of medicine is at all times liable to be called upon for his special evidence in the elucidation of questions which come home to the business and bosoms of individuals and communities as nearly as life and health, and in which every

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thing may depend upon his acquirements in the kind of training which medical jurisprudence alone can adequately give.

The presumed and actual ignorance of juries of all professional knowledge, as a matter of course, inclines them to confide in the testimony of an expert, who is capable of conveying clearly and precisely the information looked for, and who is able to maintain his position, whether as to fact or opinion, in the face of an astute and learned cross-examination. On the other hand, for the same reason, nothing is more lame and hopeless in its practical influence on the witness stand, or destructive to the moral weight of medical authority, than the blundering self-contradictions, hesitation and confusion, not to say positive stupidity as to the point at issue, with which even eminent members of our fraternity too often annoy the court and mistify an already puzzled jury. How often might we escape these humiliating exhibitions, and how easily repel the sneer which is only too well earned by many otherwise deserving members of an unappreciated calling, if such works as the excellent one before us were more frequently consulted! How much better for us all were they made the text books to a bonâ fide course of teaching in our regular curriculum, instead of being left, as they almost universally are, to the caprice of the student, as matters of mere elegant amusement.

Our readers can be at no loss to recall notorious as well as miner instances of the wretched consequences of a want of this kind of medical instruction, or of an amount of self-preparation which the treatise of Wharton and Stillé abundantly provides for and brings within the reach of every intelligent practitioner of law or of medicine.

There are men of high standing in each vocation who are disposed to regard the position here assumed for the study of medical evidence as unduly exalted. They wish to deny to it the name of a distinct department of science, and accuse it of increasing the very difficulty and embarrassment which it was intended to do away. The most conclusive answer to such objections would be rendered, as it has been time and time again, by the argumentum ad hominem in a court of justice. We suspect that few who have tried it in such a spirit will deny the truth of Mr. Taylor's remark, when he says that he never knew such

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"indifference manifested by one who had once been summoned as a medical witness to a court of law."

But it is to the doubting members of the two professions that we wish especially to recommend the book before us, as one which is, of all others, the most likely to satisfy their scruples, if not to change their views. It will command their attention as the joint production of able representatives of either body. It meets the most urgent want of sceptics of both sides, inasmuch as each of the two authors was peculiarly well qualified by character of mind and by long previous study, not only to discuss lucidly the parts assigned to him, but to assist and guide his fellow in the duty of co-ordinating the different topics—of giving to each point of law or medicine, respectively, the cast required to make it useful and acceptable alike to lawyer and physician.

The best idea, however, of their objects and the general arrangement of their labors, may be derived from the surviving author's preface, two paragraphs of which we here subjoin.

"The two points which were mainly before the authors of the following treatise when they entered upon its preparation, and the hope of reaching which formed their chief inducement in approaching a topic which has already been in other respects so ably and fully discussed elsewhere, were first, the incorporation in its pages of the results of late continental, and particularly French and German research; and secondly, the bringing together stereoscopically—if the metaphor can be permitted—of the Legal and Medical points of vision, so that the information required by each profession might be collected and viewed at the same time and within the same compass. It was felt that in the usual range of medico-legal exposition, there was a great deal that, though interesting to the medical man, is unnecessary to the legal practitioner; and, on the other hand, it is equally clear that there are many points upon which the latter needs information, which the former, either from inadvertence or what would be to him their extreme simplicity, may forbear to touch. The converse also is true, viz., that the legal writer who undertakes such a work, except in subordination to medical advice, may exhibit very satisfactorily the necessities of legal practice, but will fail to supply the information by which these necessities can be met.

"These two points, viz., the absorption of recent medico-legal research in France and Germany, and the union of the medical and legal stand points, it was here hoped to reach, not so much by a concurrent authorship of each page, as by a general preliminary comparison of views and adjustment of material by the two writers by whom the task was undertaken, followed up by a division of the subject matter between them in subordination to the plan previously agreed upon. In pursuance of this scheme, the second, third, fourth, and fifth books,—

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viz., those on the Fœtus and New-born child, on Sexual Relations, on Identity, and on the Causes of Death, were assigned to Dr. Stillé, with the exception of those sections in the two former which concern the legal relations of gestation, abortion and rape; while to the present writer fell the preparation of the first and sixth books, embracing Mental Unsoundness and the Legal Relations of Homicide, together with the general disquisition on Indicatory Evidence with which the latter book concludes."

The first book, containing two hundred and twenty-eight pages, is devoted to the consideration of Mental Unsoundness in its legal relations and interpretation. This portion belongs, as above stated, and as is already well known, entirely to Mr. Wharton. It was published separately some time ago, and has attracted a great deal of well merited attention. We have had the pleasure of noticing it at length in our number for August of this year, and therefore shall not dwell upon it now.

With regard to the technical merits of the other portions of the volume by the same author, we can not pretend to say much in a purely medical notice. We have been greatly interested, however, in the clear and ample expositions, and in the admirably concise and convenient method of arrangement and illustration, which characterize the chapters on the legal relations of rape and of homicide, fœticide and infanticide. The discussion of each of these topics is very materially aided and simplified by a preliminary analysis. These analytical tables are among the most striking and valuable features of the book, and will doubtless prove particularly serviceable to the medical inquirer. Some idea of their scope and tendency may be derived from the following brief extract, which introduces the article on the "Legal Relations of Rape."

§ "457. The points to which medical testimony is most likely to be invited, in prosecutions for rape, are the following:—

1st. Submission of prosecutrix.
   (1) From artificial stupefaction.
   (2) From ignorance of the nature of the act.
   (3) From mistake of person.
   (4) From fear.
2d. Prior want of character of prosecutrix.
3d. Subsequent suppression of the fact by prosecutrix.
4th. Extent to which coition was carried.
5th. Want of age of defendant.
6th. Want of sexual capacity of defendant.

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The law on each of these points, will be now briefly considered.

1st. *Submission of prosecutrix.*

This may happen from either of the following causes:—

(1) *From artificial stupefaction.**

"§ 458. It makes no matter whether the drug was given for the purpose of producing stupefaction, in order that the rape might be effected on the female thus made unconscious, or whether it was administered for the purpose of causing sexual excitement, and thereby leading to a voluntary submission. It is rape in either case; the law being, that the overcoming of chastity, and the destroying of resistance by artificial means, is rape, when the offence is consummated. If the result of the dose be stupefaction, and if on the woman, thus become insensible, carnal intercourse be effected; it is rape, though the intention was merely to excite. Thus, where the prosecutrix was made drunk by the prisoner, who then violated her person, it was held in England, where, from the offence being capital, it is kept within its strict common law limits, that the crime was rape, though the jury expressly found that the liquor was given with the intent of *stupefying* not *exciting*.† And in this case, it was held, that where the insensibility is the defendant's act, and where the defendant knows that 'the act was against the prosecutrix's consent at the last moment she was capable of exercising her will,' it is rape. On this point agreed all the ten judges of England, constituting the final Court of Revision in criminal causes; and it was not required by the exigencies of the case that they should go further. Several, however, thought—and this view is in accordance with the analogous cases to be hereafter noticed—that the crime was consummated by the mere act of knowingly violating an insensible woman, whether the insensibility was produced by the defendant himself or not.

"§ 459. In the late prosecution of Dr. Beale, in Philadelphia, which has been noticed above,‡ the point was not made, and it was assumed by both sides, that carnal intercourse with a woman who was stupefied by chloroform was rape, though the chloroform was administered, at her request, for the purpose of facilitating the extracting a tooth. And if the law—and the cases to be subsequently noticed unite with the reason of the case in indicating that it is—it goes to establish the broad position, that rape is sexual intercourse with a woman, not *against*—as has been formerly said—her will, but *without* it." Pp. 351, 352.

Under the head of Corpus Delicti a great variety of deeply absorbing cases, new, as well as old, are presented in a most instructive manner. It would be easy to attract the most indifferent reader with passages from these strange annals of crime and its

* See the medical relations of this point, *ante*, § 439.

† R. v Camplin, 1 Car & K. 746; Wh. Cr. Law, (3d ed.) 514–15.

‡ See *ante*, § 445.

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marvellous exposure. A quotation of a different kind, however, will serve our purpose better. It is in relation to "Marks of Violence," and may be presented as a pretty fair example, in its way, of the manner in which our author indicates the course to be pursued by medical investigators and observers.

"§ 1138. Marks of violence, in connection with the cause of death, have already been considered. At present they are only to be noticed in connection with the question of intent. It cannot be doubted that when a wound is found to have been inflicted in a secret or concealed part, which is inaccessible in sudden and passionate conflict, it bears a violent presumption of having been the result of design. Thus the wounds of which the Scotch historian tells as having been inflicted by forcing a heated iron into the fundament, could have been explained in no other way than on the hypothesis that to death was intended to be added concealment. In the same class may be enumerated the thrusting of a needle in the navel of an infant, running a sharp but slight instrument in the cavity behind the ear, dropping corrosive acids into the ear itself, and forcing molten lead down the throat through a tube; of each of which resorts the books give instances.* The principle on which the presumption of intent can be drawn from such cases is, that a person acting under the impulse of passion is much less likely to inflict a skilful wound, than one whose act is the result of premeditation.†

"§ 1139. Whether the wound was inflicted in self-defence or otherwise; whether it was self-inflicted, or inflicted by a stranger; whether the perpetrator of the crime was an expert or otherwise,—may also be deduced from the wound. And the direction of the wound may often be shown for the purpose of testing the validity of a defence. Thus, where the defence was, that the ground being rough and slippery, the prisoner stumbled, and both barrels of the gun had gone off by accident, the defence was confirmed by tracing the direction of the shot, which was found to be pointed upwards ‡ The difference in appearance between wounds inflicted before and after death, has been already considered.‖

"§ 1140. It is by medical testimony alone that the agency of the alleged violence, as a cause of death, is to be determined; and if the death was not accelerated by such violence, the defendant must be acquitted. Thus, in 1847, on a trial for manslaughter, the surgeon who had attended the deceased, stated that on examining her body he had

* Mittermaier von Beweise, 402; Demme's Annalen des Criminalrechts, vol. iii. p. 215; Bauer, Theorie des Anzeigenbeweises; Henke Darstellung, sec. 99; Blanci de Indiciis, Venet, 1545; Reinhardt de eo quod circa reum ex Præsumpt. Convinc. et Cond. Just. &c. Erford, 1732; Heinroth in Hitzig's Zeitschrift, n. 42, p. 257.

† Presumption from gun-shot wound, see *ante*, § 811.

‡ Watson on Homicide, § 246. ‖ *Ante*, § 810--816.

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found the mark of an old wound on her head, and a slight bruise on one of her thighs; but he further stated that he made a *post mortem* examination of the body, and that his opinion was, that the cause of the deceased's death was confirmed consumption, her lungs being tuberculous, and that it had not been accelerated by violence, but was wholly attributable to natural causes. The defendant, under the direction of MURPHY, Sergeant, who consulted with Lord Chief Baron POLLOCK, was acquitted.* But it is no defence that the deceased was laboring under a mortal disease, if death was accelerated by the defendant's violence;† and this, no matter how remote the cause, if the intention was to commit an assault, and death resulted."‡ Pp. 748, 749.

Book second, which is the first of those assigned to Dr. Stillé, is divided into six chapters. These are occupied respectively and successively with the "Signs of Pregnancy," "Delivery," "Duration of Pregnancy," "Superfœtation," "Abortion or Fœticide," and "Infanticide." The third book is divided into three chapters, which treat of "Doubtful Sex," "Sexual Disability" and "Rape." Book fourth contains but one chapter, which is devoted to the "Identification of the Living or Dead."

The fifth and last book of the medical series, discusses the "Questions Relative to the Causes of Death." It is divided into two parts, the first of which includes "Poisoning" and the various poisons, in numerous chapters under the usual heads. The second of these parts continues the course with the consideration of the "Other Forms of Violent Death," such as Wounds, Burns, Spontaneous Combustion, Heat, Sun Stroke, Lightning, Cold, Starvation, Suffocation, Strangulation, Hanging and Drowning, and completes it with a chapter on "Medico-Legal Examinations."

Even a slight examination of these pages will satisfy those who are familiar with the subject, that the promise of the preface is abundantly sustained in them, no less than in the essays of his accomplished colleague. Indeed the greater scope and variety of available material in the French and German publications required by Dr. Stillé, has enabled him to render the peculiarity aimed at in regard to the results of European continental research, especially remarkable in his share of the labor. Nearly every page gives proof of the industry and discrimination with

* R. v. Conner, 2 C. and K. 518. See also R. v. Crompton, C. and Mars. 597
† State v. Morea, 2 Ala. 275. ‡ Wh. C. L. (3d edit.) 363.

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which he has explored and gleaned from those invaluable and ever-growing fields of scientific cultivation, which are beyond the reach of ordinary students. But in thus gathering and presenting to his American readers a digest of experience, which, although hitherto comparatively little known, is unsurpassed in authority and varied interest, he has by no means lost sight of British and American cases and results. The cream of the whole subject is laid before us in a manner at once simple and unpretending, yet with a brevity and logical precision, an unusual cautiousness, and a judicious and manly independence of opinion, which decidedly increase the authority of the book, while they add to its freshness and interest as a truly original production. As far as we are able to determine, it is perfectly reliable in its doctrine and citations, and may be said to have been brought, in some of its cases and recently established practice, in advance of any other of the standard manuals yet published in our language. We shall have an opportunity to recur again to the history as well as the peculiar features of the essay of our departed friend, which render it a sadly cherished memento of a career so full of promise and so painfully cut short in the act of its fulfilment. Meanwhile we take pleasure in submitting a few chance extracts which may serve as examples of his ordinary style and mode of handling his topics. In relation to quickening in pregnancy, he dwells upon an important but still unappreciated truth in the following language:

"§ 283. The undue importance attached to quickening, from the earliest times, arose from an error which modern science would long since have consigned to oblivion, had it not been fatally incorporated into the laws of various countries. It was supposed that the fœtus became endowed with vitality at a variable epoch after conception, and that quickening was an indication of the moment at which it became thus animated. Such an error, explicable in the infancy of physiological science, by an inadequate knowledge of the development of the embryo, confirmed by absurd ecclesiastical canons, and handed down from one criminal code to another, should now, when ignorance is no longer excusable, disappear from our penal system. To whatever cause the act of quickening may be attributed, its explanation is not dependent upon a solution of the question relative to the precise moment at which the child becomes endowed with life. If it be due to the first motions of the child, perceptible to the mother, it is merely an indication of its *first muscular movements;* and if it is caused by the sudden rising of the uterus from the pelvis, it evidently has a still more dis-

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tant connection with the phenomena of life. No serious argument is required to prove that the fœtus, in its embryonic condition, is a new being, living by its connection with its mother, dying when this is destroyed. However rudimentary its form, it is not an inorganic body, constituted by the casual aggregation of atoms, but a living creature, from whose undeveloped lineaments a perfect human shape is to be evolved. A pulsating heart, and a nervous tract, are among its earliest recognizable elements. Reason and observation equally declare its essential vitality." P. 232.

The following curious history of a case of feigned delivery, reminds us of the somewhat similar, but more honest, management of the barren wife of a patriarch of old.

"§ 301. *Feigned delivery.* Delivery may be feigned from a variety of motives, into which it is not necessary for us to enter. A medical inspection can hardly fail to expose the deceit, and usually the collateral proof is sufficient. We have abridged the following case of feigned delivery, on account of the wonderful ingenuity with which the imposture was conducted. Dr. Albert relates that he was called upon to see a poor girl of twenty-one years of age in her last illness. In the presence of the physician and clergyman of the district, she gave the following narrative and confession. Some eighteen months previously she had entered the service of a married couple as housemaid. Her master, who was young and handsome, and assumed the title of Baron, had no children. He succeeded, by tempting presents, in overcoming her virtue. He then represented to her, that an important inheritance depended upon his having an heir, but having been married five years, and his wife still proving unfruitful, he had no longer any hope of having children by her. He then proposed to the girl, that in case she should prove with child, and would allow him to cause it to appear as his own legitimate offspring, he would not only give her a considerable sum of money, but would also let her remain in the house with her mistress, in order that she might be always near her child. She accepted the proposal, and as soon as she found herself to be pregnant, the preparations were made to carry out the projected imposture. The girl remained in the house, living in the most retired manner, while her mistress played the part of a lady in an interesting condition. She introduced wool and folded napkins under her dress, and thus gradually let her rotundity become apparent, rubbed her breasts frequently, in order to develop them, fainted in church, was often ailing and sent for midwives and consulted them concerning her symptoms; physicians were also called upon, and every means taken to make public her happy expectations, so that no one had any suspicion that she was not pregnant. The traces of her monthly sickness were carefully concealed.

"At last, in due time, the young girl fell in labor, which was allowed to advance considerably before the midwife was sent for. In the mean time the bed was arranged in the following manner. A board was taken out of the bottom of the bedstead, and immediately above

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this opening a hole was made through the mattress and paillasse large enough to allow the legs of a person to pass through and rest upon the floor. The bed was made in such a manner as to sink down towards the headboard, while it was elevated below the opening in the mattress. The mistress now leaned in a sitting position, with her legs through the opening in the bed, and supported against the headboard, while the servant lay across her lap on a feather bed, in the attitude of labor. Her body was entirely concealed by the bed coverings, which also concealed her mistress up to the neck. The midwife, upon her arrival, found the Baroness, as she supposed, in the throes of labor; she made the necessary examination, promised a speedy deliverance, and gave the usual words of comfort. The lady, however, screamed lustily at every pain, the approach of which she became conscious of by the involuntary contraction of the poor girl's body; while the latter suppressed her cries as much as possible, except when she could mingle them unperceived with those of her mistress. A living male child was soon born, and the after-birth followed it immediately. While the nurse was busy in washing and dressing the child in another room, the girl escaped from the bed into an adjoining chamber. The Baroness, before the return of the midwife, drew her feet up from the opening, covered it over with the bed, and stretching herself out upon it, forbad the midwife, (who was desirous of ascertaining her condition) to touch her, except to wash off the blood with which she had previously soiled her thighs, declaring that she was in so much pain, that she could not endure the slightest touch. The child was baptized, and on the second day put to the breast of the lady. As, however, very naturally, it found nothing there, the midwife was discharged on the pretext that the Baroness' own attendant could now take care of the child, which immediately upon her departure was confided to its own mother. The remainder of the girl's history not being essential here, is omitted. Unexplained circumstances prevented the fraud from succeeding. The authors of the conspiracy fled, leaving the servant-girl sick and in a state of destitution. She died, from the effects of privation and exposure, shortly after having made this confession."* Pp. 242, 243.

Under the head of "General Considerations" on wounds, his view of the proper use and meaning of the term "wound" is thus expressed.

"§ 792. The meaning of the term 'wound,' in popular language, can hardly be misunderstood. Its meaning is, indeed, not precise, nor is the term susceptible of an exact definition. It is applied to most forms of bodily injury caused by external violence, apart from any consideration of the means by which this was inflicted, but, in general, involving the idea of a breach of continuity in the skin. This latter element, however, of the definition, is not included in the surgical meaning of the word, since one class of wounds, called 'contused,' and

* Henke's Zeitschrift, Vol. xliv. d 172.

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recognized by all surgical writers, is not attended necessarily with any division of the skin. Indeed, the popular understanding of the expression appears to be more rational than is the professional one, for if a contusion or bruise can properly be called a wound, it is difficult to perceive why a sprain, fracture, or dislocation, is not equally entitled to the name. Yet these latter injuries are never so called by surgical writers. It is difficult, also, in consequence of the apparent vagueness of this term, to know whether burns and scalds can properly be ranked as 'wounds.' The immediate effect of the application of a burning or heated body to the skin, may not be such as to cause more than a redness of the surface, or an elevation of the cuticle into a blister, but the surface of the skin may afterward, by the giving way of the cuticle, be exposed, and it is then termed 'wounded.' Hence, the reader will perceive, that any legal limitations of the meaning of the words, whether based upon popular or professional definitions, are liable to be erroneous, if the intention be really to designate the results of external violence by a name which shall comprise them all. In treating of this subject in its medical aspect alone, we shall make use of the word *wound* as expressive of any form of bodily injury caused by external violence, since it is only by such course that the medico-legal bearings of the subject can be properly considered. Hence we have used the term WOUNDS as a convenient designation for this chapter, entirely irrespective of the possible surgical or legal limitations of the word."

A very wholesome caution is administered in the paragraphs which follow.

"Whatever parts of this examination call for the application of knowledge of which he may not be possessed, as the use of the microscope, or chemical analysis, should be committed to one who is really an 'expert' in these branches. The idea is much too prevalent, and should be corrected, that the practitioners of medicine must necessarily be acquainted with all the appliances and new modes of investigation which modern science has produced; in other words, that every physician is equally competent to undertake the examination of a case involving the question of homicide. It is to this cause chiefly, viz., the disparity in the attainments of one physician as compared with another, and also to the natural division of medical science and practice into numerous departments, some one of which may be cultivated to the exclusion of others—that the 'disagreement of doctors' is really due. Men of equal medical attainments will rarely differ upon an essential point of pathology or practice, but ignorance, or a defective knowledge in medicine, does not differ from that in any other branch of science in being usually associated with presumption and obstinacy. Still there are few practitioners of medicine who are thoroughly prepared to enter upon an examination of all the medical aspects of a case of violent death; familiarity with the means required to carry through such an investigation, can be gained only by special study, for which, to the majority, time is wanting.

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Circumstances may, however, impose upon the physician the duty of making an examination for which he does not feel himself fully competent. In remote or interior parts of the country the means for the successful prosecution of a medico-legal inquiry are usually not at hand; who ever may be obliged to undertake an examination under such circumstances, should endeavor to obtain the assistance of a colleague, and should candidly represent to the authorities the necessary imperfection of the examination, and what influence this may have upon the objects of the inquiry." Pp. 540, 541.

Again in regard to suicidal wounds.

"§ 818. That part of the *circumstantial evidence* which requires medical knowledge for its elucidation, is often most curious and important, and as it has to deal with conditions incessantly varying, and is founded upon no familiar principles, nor positive scientific basis, but rather upon loose and badly observed facts, must partake of the same nature, and often appear discordant and improbable. Each medical witness may put together in a different manner, the materials with which he is required to reconstruct the scene immediately preceding death; and a successful result will most certainly reward him, who with the most acute perception unites the largest and most familiar acquaintance with similar facts. In estimating the probabilities in reference to the manner of death, the physician has need of all the aid which a general observation of the workings of the human mind can afford him; his psychological knowledge and his medical experience must here go hand in hand, for it is his task and duty to offer an explanation of the mutual dependence of motives and results, and that, in the same disinterested and merely scientific manner, that would be required by the demonstration of any curious fact in physics." P. 555.

The question of responsibility in the surgical treatment of wounds is well discussed.

"§ 844. Death, indeed, sometimes takes place during or immediately after surgical operations undertaken for the relief of the wounded person. The question of responsibility in this case, belongs to the legal portion of the subject. It may not, however, be out of place to remark that the surgeon can seldom foresee, with confidence, the issue of capital operations, for there are many individual peculiarities and causes beyond his control, which may make it unfavorable. The same may be said of any plan of treatment, whether it involves a serious operation or not. The question may arise, whether the surgical treatment employed was the best that could be devised, and whether, had some other course been pursued, a favorable result might not have been obtained. Or, it may be alleged that the treatment was so unskilful, or the patient so much neglected, as to be the occasion of the fatal termination of the injury. That these facts should be established beyond dispute, it ought to be shown that the treatment was marked by the omission of some-

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thing universally recognized as of primary importance. But as every surgeon has some peculiarities in his practice, and as the mode of treatment of bodily injuries, from the progressive nature of the medical art, is various, this omission should be looked for only in those points which betray an ignorance of the fundamental principles of surgery. However much the opinions of competent persons may differ respecting the choice of remedial means, they will generally, we think, be found united upon the principles which should govern their application. Still, occasionally, the plan of treatment may be so singular, although apparently founded upon correct notions of the curative process, as to call for reprobation. Thus, in a case which occurred in Saxony, a surgeon was deprived of the liberty of practising his profession in that country for having attempted to promote bony union between the fragments of a fractured patella, by the novel expedient of firing a pistol between them. Although no permanent injury was done to the patient, who, indeed, a few months after the operation, declared that his leg was nearly as good as the other one, and that he was even able to dance and to walk long distances, yet the medical commission charged with the case very properly considered the operation as likely to prove a dangerous precedent if it were not condemned.*

"§ 845. The difficulty is not so great where the original wound has been trifling, chiefly because its comparatively innocuous character can be clearly shown. Thus, for instance, if the hand have been wounded and one of the arteries divided, compression may be necessary to arrest the hemorrhage. But if a surgeon, with this view, should apply a bandage so firmly, or on the other hand, leave it on so long as to cause mortification of the part, and death ensue in consequence, it is evident that the treatment has not only been unskilful, but that it has really been the cause of death, since the wound of the hand was neither, in itself, mortal, nor would it have produced death in the manner described. But, in severe injuries, in which various complications arise and require the exercise of the greatest skill that learning and experience can give, it cannot be expected that some will not terminate fatally, which, perhaps, under more favorable circumstances, or a better plan of treatment, might have had a fortunate issue. The most humble surgeon may chance to receive the charge of an injury which calls for the enlightened tact and experience of a highly educated man; if his treatment should prove unsuccessful, he should be prepared to show, if required, that his patient had the best care which he was able to afford him, and, if possible, that he consulted with one or more colleagues respecting the treatment. In the language of Judge Woodward, 'The implied contract of a physician or surgeon is not to cure—to restore (e. g.) a fractured limb to its natural perfectness, but to treat the case with diligence and skill. . . . He deals not with insensate matter like the stonemason or bricklayer, who can choose their materials and adjust them them according to mathematical lines, but he has a suffering

* Casper's Vierteljahrschrift, 1852, Bd. 1, H. 1.

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human being to treat, a nervous system to tranquillize, and a will to regulate and control."* Pp. 569, 570.

The chapter on "Spontaneous Combustion," although brief, is particularly deserving of attention. His belief in the reality of these disputed phenomena is, to some extent, affirmative, as may be seen by the annexed quotation from his opening paragraph.

"Not having adopted a theory with a desire to find those facts only which might be adjusted to it, but desirous of discovering the real extent of our knowledge relative to the phenomenon of what is called spontaneous combustion, we have examined the subject not without some care and earnestness. The result of this investigation has shown us that if there is not such a phenomenon as the actual spontaneous combustion of the human body, there is sufficient evidence to prove, that in some cases it may acquire a preternatural inflammability and that this peculiarity can be recognized by the trifling source of combustion compared with the rapidity and extent of its progress. We do not hesitate also to affirm that a belief in the actual occurrence of the phenomenon referred to may be entertained, without a satisfactory scientific explanation." P. 591.

The subject of medico-legal examinations is introduced with the following admonitions:

"§ 943. The physician who is called upon to make an examination of a person found dead under suspicious circumstances, has devolved upon him a task of no little gravity. He therefore should endeavor to come to it prepared to acquit himself of his duty in such a manner, that he will afterwards not have to regret having imperfectly discharged it. Not only is familiarity with anatomical dissection required, but a far greater carefulness, and a more searching examination than in cases of death from disease, since in these latter, the object of the investigation is into the nature of the morbid cause of death, and the acquisition of greater familiarity with pathological facts. Moreover his attention must be given to many circumstances which, in these, it is not necessary to observe, viz: all those matters which may throw light upon the mode of death, such, for instance as the position of the body in relation to surrounding objects, and the locality in which it is found. The duties of the examiner, and the facts necessary to observe, may be arranged under the following heads:

1st. *Locality.*
2d. *Identity.*
3d. *Indications of violence or unnatural death.*
4th. *Manner of conducting the autopsy.*
5th. *Natural aspect of the organs at different ages.*
6th. *Mode of drawing up Reports.*" Pp. 645, 646.

* McCandless v McWha, Error to Common Pleas of Beaver County. Am. Jour. Med. Sci. Jan. 1854, p. 273.

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These different heads are dwelt upon at length in a very useful series of instructions, of which the summary of the "*Natural aspect of the internal organs,*" is new and particularly desirable as a guide to the post-mortem examiner.

With these few passages from this admirable work we are obliged to close our notice of its valuable contents. We congratulate the publishers on the handsome manner in which they have contributed, in the getting up of the volume, towards the popularity which it so fully deserves, and will doubtless rapidly obtain.

It only remains for us, as the Journal collaborators of Moreton Stillé—his fellow-laborers in other similar paths, and as sorrowing associates who had long since learned to prize his worth,—to say amen with all our hearts to the eminently just and feeling tribute of Mr. Wharton, which he offers in the sadly interesting history of his lamented colleague's last year of study and of its unfortunate and, to us, irreparable end.

"Of the manner in which was performed at least a portion of the task whose history is now given, it may not be unsuitable for the writer who now survives to speak. It was to the preparation of this portion that the last year of Dr. Stillé's short but distinguished professional career was given. It was a year of patient and severe research, marked, to an extent of which the annals of science afford few parallels, by the most self-denying industry, as well as by a rigorous and almost fastidious conscientiousness in the pursuit, not only of truth, but of the most appropriate terms by which that truth could be expressed. And the labor was not one which derived any portion of its severity from the want of prior preparation. Dr. Stillé had not only enjoyed great opportunities for literary and professional culture, but what is rarer, these opportunities were faithfully improved. The liberalizing influences of European culture, as well as the simpler discipline of home instruction, passed not over him in vain. The schools of Europe received from him in the prime of his early manhood the same single and conscientious attention as the schools of Philadelphia in his youth. He found the pleasures of travel and the desultory influences of foreign habits of no more avail in drawing him from a laborious personal attendance on the hospitals—those great repositories of disease which, in the developement of God's wonderful providence, are made the arsenals which supply the weapons by which the maladies that necessitate them are to be combated—than he found the more primitive habits and more limited associations of his native city. The great continental tongues, in their scientific as well as their popular relations, were mastered by him to a completeness of which, among persons of his age, we have rare examples. Few men,

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even among the most mature, have gone to the grave so richly fraught with the literature of a profession, which to him was a philosophy as well as an art. And few, at so early age, have gone to the grave with faculties under more complete moral discipline. To one of his most remarkable qualities,—that delicate and yet modest firmness of perception which, unwarped on the one side by pride in his own opinion, or on the other by undue deference to that of others, enabled him, after the most difficult and subtile research, not only to reach but to express the truth—no one has had better cause to testify than the present writer. The work which these lines now close was one which brought both of those who engaged in it into the most intimate and affectionate personal intercourse for many months; and the one who survives can now scarcely look back upon the preparation of a single page without having additional cause to remember and record those high mental qualities and culture, whose value in the present case was only increased by the gentleness, the refinement and the fine sense of personal honor with which they were associated.

. . . . . .

"Perhaps, indeed, even in a profession whose history has been so marked by acts of zeal and disinterestedness, when we take into consideration the fact that Dr. Stillé was impelled by no other motive than that of professional love and enterprise in the severe course of study and self-sacrifice in which he was engaged, there will be found few cases where these qualities have been so eminently exhibited as the present. Possessed of an ample fortune, he was one of those uncommon instances in which the most arduous and protracted courses of preliminary trial are gone through with under the calm and equal effect of a will which is impelled neither by necessity nor the desire of present applause, but by the faith in a distant future, in which the result will be none the less precious because it is the longer delayed.

"But this future was one to which Dr. Stillé—and to the great loss of popular as well as of medical science—was only in part to arrive. Early in 1855, he received the appointment of Lecturer on the Practice of Medicine in the Philadelphia Association for Medical Instruction, and at the end of June closed the first portion of a course of lectures of which it is not too much to say that they were received with unmixed satisfaction by the class to whom they were addressed, and the colleagues with whom he was associated. In the first week of July he sent from his office the last of the manuscript of that portion of the following pages which fell under his charge, and almost immediately afterwards was stricken down by a disease which found him with strength impaired by the exhausting studies of the preceding winter. On August 20, 1855, he died at Saratoga, almost at the moment when the press was issuing the last sheets of a work which contains so much worthy of being erected as a monument in which his professional brethren will recognize the impress of his high intellectual gifts and culture." Pp. iv. v. vi. of Preface.

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Principles of Human Physiology, with their chief applications to Psychology, Pathology, Therapeutics, Hygiene and Forensic Medicine. By WILLIAM B. CARPENTER, M. D., F. R. S., F. G. S., Examiner in Physiology and Comparative Anatomy in the University of London, &c., &c. *A new American, from the last London Edition, with two hundred and sixty-one illustrations. Edited, with additions,* by FRANCIS GURNEY SMITH, M. D., Professor of the Institutes of Medicine in the Medical Department of Pennsylvania College, &c. Philadelphia: Blanchard & Lea. 1855.

This is the sixth large edition (as we are informed) of Dr. Carpenter's Principles of Human Physiology, a sufficient proof, were one wanting, of its acceptableness to the student and practitioner. In many of our schools it has become the text book on the "Institutes," taking the place of others that for a long time held undisputed sway. A modification has been introduced into the present volume, however, which we fear may, to a certain extent, mar its usefulness as a companion to the student, though it will probably enhance its value in the eyes of the practitioner. This consists in the carrying out of a plan long entertained by the author, of making three distinct treatises of the Human, Comparative and General Physiologies, transferring to each of these volumes whatever was found in the other relative to the special departments, thus making three "independent but mutually connected treatises on the three great departments into which modern physiology naturally divides itself." In accordance with this plan, the chapters on animal chemistry and on the structure and actions of the animal tissues, which occupied about 240 pages of the last edition, have been entirely omitted in the present, and the student who desires information on this important subject must look elsewhere for it, if his means permit of his obtaining the more expensive works in which it may be found, or—go without it. This omission, we feel constrained to say, we consider a capital mistake, and one which we think must eventually limit the circulation of the "Human Physiology" to the more advanced student and practitioner, and bring his "Elements" more prominently forward as a substitute in the hands of those engaged in attendance upon lectures.

With this exception, the present edition cannot fail to sustain the enviable reputation obtained by previous ones. Dr. Carpen-

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ter's well known zeal and industry are fully shown in the care evinced in the remodelling of some of the chapters, and the additions of new material by which the sixth edition is fully brought up to the times. Everything appertaining to the science which has appeared since the last edition, has been subjected to his reducing crucible, and a complete digest is afforded to those whose opportunities of research are more restricted. The views of the author are too well known to our readers to make any analysis necessary; suffice it to say, that where additional light has been thrown upon any subject, making a change of opinion necessary, the author has not hesitated to express it; a frankness calculated to inspire confidence in his readers and to insure a faithful reflection of the present state of physiological science.

The editor's notes are both full and numerous. We have been especially interested in his remarks upon the origin and destination of fibrin in the animal economy, and with the theory of the cause of the heart's action, and commend them to the reader's attention. Among the additions we observe Prof. Dalton's excellent article upon the Gastric Juice, published in the American Journal of Medical Sciences; Mr. Joseph Jones' paper on Endosmose, read before the Philadelphia Academy of Natural Sciences, and Professor Jackson's philosophical, satisfactory, and we believe entirely novel explanation of the functions of the semi-circular canals of the ear, besides a number of other valuable American and foreign contributions to the science, which have passed unnoticed by the author. Unusual judgment is shown, in our opinion, in these selection and additions, and we are confident that those who read them will agree with us that they materially enhance the value of the work.

The publishers deserve great credit for the handsome style in which the volume is printed and illustrated.

The Diagnosis of Surgical Cancer. (*The Liston Prize Essay for* 1854.) By JOHN ZACHARIAH LAURENCE, Surgeon to the Northern Dispensaries; late House Surgeon to University College Hospital. London: John Churchill. 1855. pp. 77, in two chapters, with two plates.

We have read this short monograph with considerable interest and have been so much pleased with its mode of treating its im-

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portant and difficult subject, that we regret our inability to give it more than a cursory notice.

It is modestly offered "rather as a rough sketch of the Pathology and Anatomy of Cancer (which may one day serve as a basis to future investigation), than as laying any pretensions to the character of a finished treatise." Regarding it in such a light, it certainly does great credit to the scientific and practical training of its author; and at the same time encourages us to look to the same source for a much more extended and conclusive examination of the whole question, to which it already forms so excellent a ground work.

Justly considering the diagnosis of a case to be more or less concerned in the consideration of all its points, he briefly discusses the diagnostic value of these, severally, according to the following scheme:

"I. ÆTIOLOGY. *a. Predisposing causes.* 1. Hereditary; 2. Personal; sex, age, previous health. *b. Exciting Causes.* II. SYMPTOMATOLOGY. *a. Special Previous History.* 1. Progress of growth; 2. Patient's general health during that progress. *b. Condition of patient when first brought under observation.* 1. Local Phenomena; (consistence and aspect of growth, pain, hemorrhage, discharge, &c.); 2. General Phenomena. (Cachexia, wasting, &c.) *c. Anatomy of growth.* 1. Obvious Characters; 2. Microscopic Characters."

In this discussion he avails himself, in the first place, of the labors of Lebert, Paget, Walshe, Velpeau and others, together with some of the older observers, as Wardrop and Hey; and in the second place, of his own individual observations.

The clinical aspect of the subject, including causes and symptoms, occupies the first of the two chapters. It is treated in a practical manner, and although on account of its brevity it is necessarily more suggestive than conclusive,—more likely to unsettle than determine mooted questions—it is valuable in this very way and furnishes many useful hints. The same thing, to some extent, may be said of the remarks upon the anatomical elements of diagnosis, which are the subject of inquiry in the second chapter. We have only room to quote the author's concluding estimate of the microscopic test as a means of diagnosis.

"1. That in the greater number of cases of cancerous tumors the so-called cancer-cell will be found.

2. That this form of cell is occasionally seen in growths manifestly innocent.

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3. That, *vice versâ* (what is, however, less frequent), tumors anatomically innocent prove clinically malignant—that 'the cancer-cell is not the *sine quâ non* character of cancer.'

4. That the inferences drawn from the microscopic examination are not to be deduced from a few isolated cells that may have happened to strike the eye, but rather from the characters of all the cells, and of the field of view generally.

5. That the results afforded by the microscope must take an important but not an exclusive and overbalancing position in the series of data, which are to serve us as the premises for our conclusion."

The Book of Prescriptions: containing 2900 *Prescriptions, collected from the practice of the most eminent physicians and surgeons, English and foreign. Comprising also a Compendious History of the Materia Medica of all countries, alphabetically arranged, &c.* By HENRY BEASLEY. Philadelphia: Lindsay & Blakiston.

Mr. Beasley's book belongs to a class of works, which in their proper place and as remembrancers are exceedingly useful. There are few physicians who have not their favorite prescriptions for particular diseases or stages of disease; it is impossible it should be otherwise where the practice is large; it is well for all, therefore, to be provided with a work like the present, in which can be found under the head of each remedy the various methods of prescribing it, adopted by practitioners of authority in each instance. Dr. Beasley is evidently an industrious, well-informed man, in every way qualified to supply this want, and we take much pleasure in recommending his work to the profession.

"It will readily be imagined," says the author, "that the prescriptions are not all of equal merit, and the reader will find several opportunities of comparison, by which a considerable variety of opinion among medical practitioners, particularly in the matter of doses, has been forcibly illustrated. When it has been necessary to point out the mean between extremes of this nature, the editor has been assisted in his task by competent medical advice, and he hopes that a correct judgment has been thereby arrived at."

The following is a sample of the work:

ACIDUM HYDROCYANICUM. *Hydrocyanic or Prussic Acid.*

Hydrocyanic acid is a direct sedative, and so highly poisonous, that a single grain of the pure acid is sufficient to destroy life. The diluted acid, in medicinal doses, allays irritation, reduces the pulse, and lowers

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the sensibility of the nervous system. It is used to quiet irritable and spasmodic cough, to allay vomiting, and nervous palpitations, and to relieve pain and quiet the system in neuralgic, rheumatic, and other painful affections. *Externally*, it is used in lotions, to allay itching in some cutaneous diseases. *Inhaled*, it has been tried in some affections of the lungs.

The usual dose of acidum hydrocyanicum dilutum, L. is from 3 to 5 minims. That of the new DUB. Ph. is, perhaps, intended to be of the same strength, but its percentage of real acid is not stated. The process yields a product which is variable, but usually stronger than that of L. Acidum hydrocyanicum, E., is stronger than L., 3 minims of the former being equal to about 5 of the other. *Acidum Hydrocyanicum (Scheelii)* is often met with in prescriptions; but there is no standard strength for it, and it possesses no advantage over the pharmacopœia preparation. The average strength, as procured from various manufactures, seems to be about twice that of L. *Acidum Hydrocyanicum* of the United States and Prussian Pharmacopœias contains, like that of L., 2 per centum of real acid.

Potassii Cyanidum has the same properties and uses as hydrocyanic acid. Dose from one-eighth to one-fourth of a grain. The latter dose is equal to 5 minims of diluted Hydrocyanic acid, L.

℞ Acidi Hydrocyanici dil. ♏j.
Aquæ destillatæ, f ℥vij.
Syrupi Aurantii, f ℥j.

M. fiat haustus quaque secunda hora sumendus donec evanescent symptomata.

In Gastric Irritability, Nervous Palpitation, &c.—DR. NELIGAN.

℞ Acidi Hydrocyan. dil. ♏xij.
Aquæ destillatæ, f ℥j.
Syrupi Papaveris, f ℥iij.
Misce: capitat cochl. amplum secunda quaque horâ.

In Consumptive Cough, &c.—DR. GRANVILLE.

℞ Potassæ Bicarbonatis, gr. xv.
Cocci Cacti, gr. viij.
Aquæ destillatæ, f ℥vj. Tere simul, cola, et adde.
Acidi Hydrocyanici dil. ♏x. Misce.

A tablespoonful to be taken when the cough is troublesome.

In Hooping Cough of Children.—DR. GRANVILLE.

℞ Misturæ Amygdalæ, f ℥vss.
Acidi Hydrocyan. dil. f ℥ss.
Tincturæ Opii, f ℥ss.
Tinct. Lavand. comp. f ℥ij.

Misce: fiat mistura cujus sumantur cochl. ij. larga secundis vel tertiis horis.

In Gastrodynia with Spasms.—DR. COPLAND.

℞ Acidi Hydrocyanici, guttas v.
Aquæ Calidæ, q. s.

Inhale the vapor by means of a suitable apparatus three times a day,

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lying down an hour after each; very gradually increase the dose to ten drops. After four or six weeks, give steel and quinine.

In Hypertrophy of the Heart.—DR. T. G. HARE.

A Dictionary of Terms used in Medicine and the Collateral Sciences. By RICHARD D. HOBLYN, A. M. Oxon. *Revised, with numerous additions,* by ISAAC HAYS, M. D., &c. Philadelphia: Blanchard & Lea. 1855.

This excellent little dictionary, now in its sixth edition abroad, has been considerably enlarged and improved by the introduction into it, by the American editor, of a large amount of new matter, in which the student will find, besides many terms recently added to science, the names of our native medicinal plants, the formulæ for the officinal preparations, &c., &c.

The preface states that "the editor has availed himself of very many recent sources of information in preparing his additions, among which he would especially mention the *Expository Lexicon*, by Dr. R. G. Mayne; *Medical Botany*, by the late Dr. R. E. Griffith; the recent works of Carpenter, Paget, Owen, and Jones and Sieveking; and the admirable *United States Dispensatory* of Professors Wood and Bache."

An additional inducement to the American student to purchase the work, is, that it has been made to conform with the latest edition of the United States Pharmacopœia.

We warmly commend it to our readers.

The Transactions of the American Medical Association, instituted 1847. Vol. VIII. Philadelphia: Printed for the Association by T. K. and P. G. Collins. 1855.

Our limits prevent us from doing more than acknowledging the receipt of the above volume. We shall take another opportunity of noting its contents.

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THE MEDICAL EXAMINER.

PHILADELPHIA, DECEMBER, 1855.

MEDICAL NEWS.

A Consumption Hospital, the first of the kind in the United States, has been recently organized in New York, by the election of Dr. J. H. Griscom, as President, and Dr. A. H. Jones, as Secretary. Buildings will be erected as soon as the necessary funds are raised.

We regret to notice the death of Professor Johnston, of Durham, a well known Chemist and writer on scientific subjects.

Professor Allman, of Dublin, has been elected to the Chair of Natural History, in the Univerity of Edinburgh, vacated by the death of Prof. Forbes. Dr. Laycock, of York, a well known and distinguished writer, has succeeded, after a vigorous canvass, in obtaining the Chair of the Practice of Physic in the same Institution. His strongest competitors were Professor Bennett and Dr. Wood, of Edinburgh. Professor Alison, the previous incumbent, whom ill-health caused to retire, has been appointed Emeritus Professor.

British Mortality in England and the Crimea.—If all the deaths of British soldiers in the Crimea during the last three months were added to the deaths in England, the sum would be less by some twenty thousand than the deaths registered in England during the three summer months of 1854. In fact, it results from the Report of the Registrar General, for the Quarter ending September, 1855, that the summer months of the present year have been unusually favorable as regards health, notwithstanding the undoubted disadvantage under which the poor have suffered in respect to the price of provisions. The causes assigned for the improvement in the public health, by the District Registrars, are various, but they are quite in unison in respect to the inestimable advantages accruing from sanitary improvements. The deaths in the summer quarters of the five years 1851–55 were as follows:—

1851.	1852.	1853.	1854.	1855.
91,499	100,382	92,201	113,939	87,934

It is a curious circumstance, in reference to the means of livelihood of the people, that while in the interval of two years the price of wheat has risen 48 per cent., and that of beef 15 per cent., there has been a fall of 37 per cent. in the price of potatoes, an article of large consumption among all classes, and which has operated as a set-off against the

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high price of other articles; thus, perhaps, partly accounting for the fact that the public health is better than in the summer of 1853. In reference to the Meteorology of the quarter, Mr. Glaisher reports that the departures from the average values of the temperature have in no cases been large during the quarter, and that other subjects of investigation have been about their average. Such being the facts of the case, it remains only that, eschewing the insignificant few who, for peculiar reasons, are *sans* olfactories, we steadily pursue the work of sanitary reform, having confidence in the aphorism, "*Aide-toi, et le Ciel t'aidera.*" —*London Medical Times.*

Card of the Committee on Prize Essays of The American Medical Association.—At a meeting of the American Medical Association, held in Philadelphia, May, 1855, the undersigned were appointed a Committee to receive voluntary communications on Medical subjects, and to award prizes in accordance with the regulations of that body.

Each communication intended to compete for a prize, must be addressed to the Chairman of the Committee, at Ann Arbor, Michigan, before March 20th, 1856, and must be accompanied by a sealed packet, containing the name of the author, and marked exteriorly by a sentence or motto, corresponding with one upon the essay; which packet will not be opened unless the essay belonging to it is successful in obtaining a prize. Unsuccessful papers will be returned on application, after the adjournment of the Meeting of the Association, in Detroit, in May next.

A. B. PALMER, M. D. (Chairman), SAMUEL DENTON, M. D.,
A. R. TERRY, M. D., A. SAGER, M. D., S. H. DOUGLASS, M. D.,
C. L. FORD, M. D., E. ANDREWS, M.D.

We have been desired to copy the following notice. We sincerely hope that its object, which all must allow to be a very laudable one, will be crowned with success.

Philadelphia, November, 1855.

Dear Doctor:—At the last meeting of the Pennsylvania State Medical Society the following Resolution was adopted:—

"*Resolved*, That the Corresponding Secretary be, and he is hereby instructed to address a circular to the prominent Physicians in those portions of the State in which no County Medical Societies exist, urging upon them the importance of organizing such Societies without delay."

In this age, the influence of associated action is invoked by every class of the community which has interests to protect, or objects to accomplish; it cannot, therefore, be regarded as singular, that Physicians should seek its aid to protect the interests of their Profession, which, in this State, the law leaves entirely unguarded.

We do not ask your assistance to obtain Legislative Protection, but we earnestly urge you to assist us in protecting ourselves: organize a County Medical Society without delay, enroll the names of the educated, moral, and regular Physicians, and exclude from the brotherhood the ignorant, the irregular, and the unprincipled; then will your brethren at a distance know to whom to apply for advice and assistance, and will co-operate with you in all measures calculated to extend the usefulness of our high calling, and to elevate, dignify and adorn it. Bring

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to your County Society the results of your observations and experience in Medicine and its kindred sciences; collate them and send them to the State Society for common improvement, and receive in return the observations and experience of Physicians in other parts of the State; thus will all be benefitted, and much valuable information be preserved and circulated.

The scandal of our profession is, and always has been, that Physicians not only differ in their treatment of disease, but that they do not live together in social harmony. The formation of a County Society leads to more frequent professional and social intercourse, and thus elevates the character of the profession by discouraging the spirit of ungenerous rivalry, reconciling enemies, and healing those differences which arise from mi-representation or fancied injury.

Our annual reunions are, moreover, seasons of pleasure as well as profit, for in them, warm-hearted, accomplished, and distinguished Physicians, from all parts of the State, meet in social as well as scientific fellowship.

The next meeting of the State Society will be held in Philadelphia, on the last Wednesday in May next, when we will be happy to receive you as a delegate or individual member from your County, and will endeavor to make your sojourn in the Medical metropolis of the country as pleasant as possible.

Yours, very respectfully, THOS. H. YARDLEY,
Corresponding Secretary of State Medical Society.

NOTE.—The objects of the Pennsylvania State Medical Society, as declared by the Constitution, are "the elevation of professional character; the protection of the interests of its members; the extension of the bounds of medical science; and the promotion of all measures adapted to the relief of suffering, and to improve the health and protect the lives of the community."

The members consist of ASSOCIATES and DELEGATES; every member of a properly organized County Society is an associate; the delegates are elected by the County Societies in the proportion of one to every five of its members; but every County Society, however small, is entitled to one delegate.

The Delegates meet annually, to transact the business of the Society. The first meeting was held in the City of Reading, in 1849, at which only ten County Societies were represented; now twenty-five Counties have formed Societies, and we hope at the next meeting to have delegates from every County in the State.

A volume of the *Transactions* is published annually, containing the names of the Officers and Members of the County Societies, their reports, and much other valuable information. A few volumes of these *Transactions* remain on hand, and will be forwarded to the address of any Physician who is willing to take the first step for the formation of a County Society; or any other information on the subject will be given on application to

THOS. H. YARDLEY,
No. 381 *Arch Street, Philade'phia.*

RECORD OF MEDICAL SCIENCE.

Notes on the Application of Statistics, to Questions in Medical Science, particularly as to the External Causes of Diseases. By W. P. ALISON. M.D., Edin., D.C.L. Oxon., Emeritus Professor of Practice of Medicine, Edinburgh.*

It has so frequently and so plausibly been urged, against all the inquiries and studies which are termed Statistics, that the form of such reasoning may be applied to the support of almost any proposition, that

* Read to the Statistical Section of the British Association at Glasgow, Sept. 1855 (by Sir Archibald Alison.)

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it becomes an object of very considerable importance,—in the view of any one who is truly convinced of the importance and frequent practical application of such inquiries,—to point out the circumstances of any question, or departments of any science, in which this kind of information is truly requisite, and the conditions under which it may be trusted. This is especially true of the science of Medicine, because there is one great department of that science,—that which we term Etiology, or the doctrine of the external causes of diseases, in which our knowledge is acquired almost entirely in this way. It is in very few cases only, that our knowledge of the essential or intimate nature, either of diseases or of the powers in Nature which excite them, enables us to form any anticipation of the effects of those powers; and it is simply by *empirical* observation,—facts observed and recorded, and the frequency of their recurrence noted, although not explained, *i. e.*, it is by the mere *force of numbers*, or by *statistics*, whether stated exactly in that form or not, —that our information on that subject, and practical rules for the prevention or treatment of diseases, founded on that information, are acquired.

I have elsewhere stated,* what seem to me to be sufficient reasons, for the application of Statistics to inquiries of this kind being more frequently and obviously required, than in any of those which are made, either into the nature of diseased actions (or of vital actions in general,) or the power and mode of action of remedies. The questions which we propose to ourselves in Etiology are truly *simpler* than either in Pathology or Therapeutics,—they involve little or no exercise of judgment, simply the observing and recording of facts, according to directions which are made known, and the sufficiency of which can easily, at any subsequent time, be estimated;—the sources of fallacy connected with them are *less numerous;* and, more especially, we can usually remark this, as to the observations by which we can fix on those antecedents of a disease, to which we ascribe the power of producing it,—that the *positive observation*, of the alleged effect following the application of the cause, is supported by a large body of *negative observations*, often not stated in words, but truly essential to the validity of the inference; and, therefore, this class of observations is often more truly and efficiently statistical,—the number of individual cases really contributing to the result obtained, is very much greater, and the evidence afforded more decisive, than it can easily be made in the other departments of medical inquiries; sometimes, therefore, greater than those who have accustomed themselves only to physiological or pathological inquiries, or to watching the effects of remedies, can easily perceive.

The importance of this observation will not be denied, when we remember that this is the department of Medical science which is truly of the greatest practical importance. The knowledge of the external causes of diseases, is that which leads most directly to their prevention; and to the preservation of those lives especially, from which the greatest amount

* British and Foreign Review, etc. January and April 1854.

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of labor of all kinds may be obtained, and which are, therefore, generally regarded as most valuable to a state.

In the course of the present century, improvements have been made in Medicine, which will bear comparison in their practically beneficial tendency, with those which have made this age and this quarter of the globe so illustrious, as regards the applications of any other Sciences to practical purposes. These have been almost exclusively in this department of medicine, and may be truly said to rest, as yet, almost exclusively on Statistics; anticipating, probably by several ages, any information within the power of the human race, as to the intimate nature of the phenomena which are thus recorded. It is simply by the force of numbers, attesting the simple fact of a disease, easily recognised, showing itself in many persons within narrow limits of time and space, and there only, that we have learnt how the poison of Small-pox may be diffused; and that it may be disarmed of its power over the human body, by being first taken into, and modified by its passage through, the body of the cow, and then applied, in almost infinitesimally small quantity, to the human body itself, and there exciting a certain specific inflammatory process, absolutely devoid of danger, and incapable of communication through the medium of the air, and, what is still more inconsistent with the knowledge we have of other changes in nature, that this modifying and preserving effect on the human body, produced in infancy, continues equally perfect, in a great majority of cases, after 60, 70, or 80 years, if life shall continue so long,—*i. e.*, after we are certain that the body on which it has been produced, has been repeatedly *worn down and built up again*, so that the poison introduced into the structure in advanced life, can no more be said to come in contact with living matter which has gone through the process of vaccination in infancy, than, according to the paradox of an ancient logician, a man can be said to have bathed twice in the same water, because he has bathed twice in the same river.

So also it has been simply empirical observation, and, therefore, by reference to statistics, that we have acquired within these few years, information touching the extension of another epidemic, less frequent, indeed, but attended with peculiar interest, and often with extreme fatality, the Puerperal fever, which enables us, with almost absolute certainty, to predict that its propagation, after the manner of an epidemic, may hereafter *always be prevented*. For, I believe, I may safely assert, that the statistical observations of Dr. Semmelweiss, in the great Lying-in-Hospital at Vienna, where upwards of 6000 births take place in a year,—being in exact accordance with what has been seen in this country, have unequivocally shown:

1. That this disease is, in fact, a case of the Diffuse inflammation or Erysipelas, attended with the same peculiarities in the extension of the inflammation, and in the nature of the effusion, and the same variation as to the nature of the accompanying fever in different epidemics.

2. That one immediate exciting cause of this form of inflammation, which may always be suspected when it prevails epidemically, is the *cadaveric* poison,—often evolved, during the decomposition of the human

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body, from whatever cause death may have taken place; but during one stage of that decomposition only, viz., that early stage during which the *post mortem* inspections for the investigation of the cause of death are most frequently made.

3. That when this form of inflammation assumes the form of epidemic puerperal fever, the mode of its transmission from one patient to another, is by accoucheurs or nurses, themselves in good health, but to whose persons or clothes minute portions either of the *effluvia from others* already affected, or of this *cadaveric poison*, have become attached; and

4. That when the obvious precautions are taken, to prevent any persons to whom, in either of these ways, the poison can have thus adhered, from acting as accoucheurs or nurses until effectually purified, no "epidemic extension" of puerperal fever is seen.

It is seldom, no doubt, that this last proposition can be submitted to a searching scrutiny, as in the year 1846, at the Vienna Hospital, under Dr. Semmelweiss, when the number of deaths after these precautions were adopted, was diminished by no less than 400 in that hospital alone, and in a single year; but when it is added, that each of the propositions above stated is quite in accordance with observations made and recorded (although the bond of connection among them had unfortunately not been duly observed) in this country, whenever puerperal fever has been epidemic, whether on a large or small scale,—so that it would be easy to collect statistical evidence of the same kind from every such epidemic, wherever any record of the facts has been left, to establish each of these propositions,—the force of this statistical evidence becomes such as to justify the sanguine anticipation above announced.

Our information as to the mode of extension of the malignant Cholera, is, unfortunately, as yet less certain or precise; yet I think we may say it is so far advanced, that we may entertain a confident *hope* of its being very soon such as to disarm any epidemic cholera, in this climate, at least, of all its terrors.

I allude to that subject here, chiefly because I think it affords an example worthy of notice, of what I have already stated, as to the frequent misapprehension of the strength of evidence, simply empirical, or founded on statistics, which may often be obtained in inquiries of this kind.

I mentioned formerly in a paper on this subject, which I had the honour of laying before this Association at Birmingham, a *single case* which I saw in the year 1832, and which I have always maintained to have been sufficient, for any one who duly attended to the statistical evidence it afforded, to establish the proposition, that the disease is capable of propagation in this climate, by the intercourse of the sick with the healthy, without pledging us to any opinion as to the mode of communication, or as to the existence of other modes. Now that it is generally admitted, that the assertion then made was correct, the question for discussion now being (as stated by the Editor of the *British and Foreign Medical Review*), "*not* whether cholera is contagious or not, but *how often* it spreads *by the agency of human bodies* (*i. e.*, by *contagion*), and how often without that agency," (Journal for January 1854, p. 298.,

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I think myself justified in drawing attention to the grounds on which it was made; and which, I still think, amply sufficient to establish that mode of communication, without, of course, excluding others.

The reason of this strong expression of opinion was, that the case furnished a remarkable example of the evidence which, according to what was formerly stated, a single *positive* fact may afford,—quite of the nature of the *instantia crucis*, when supported by a large body of *negative* observations. The anxious expectation of the disease in the town, in 1832, the careful division of the town into districts, and appointing of stations and medical men to each, and the number, zeal, and intelligence of these observers, were known to be such as to justify our saying, that this was the very *first* case of the disease which ever originated in Edinburgh or Leith, in a person who had not left the town; and that for a time it was *an isolated* case, no other appearing for ten days, in a population of above 140,000 persons, many of whom were in circumstances, in all other respects at least, equally favorable to the appearance of Cholera, as this woman was;—as the subsequent appearance of the disease in many of them, during nearly a year that the disease afterwards existed in Edinburgh, proved. If the poison producing this "*nova pestis*," had no contagious property, this woman was not more exposed to it than any other of this large body of people; but if it had that property—in whatever other way it might be communicated,—she was undeniably and peculiarly exposed, as she was engaged in nursing her son, in a close confined room, who was ill of the symptoms of cholera, during the whole of the day preceding that in which she sickened and died; and he had passed the next preceding night in a house in Musselburgh, where patients in the malignant disease then were, and had been for weeks previously. Here, then, was a fair *instantia crucis*, to determine whether the transmission of the disease, from place to place, known to be at that time a frequent event, was or was not dependent on intercourse of healthy persons, with those previously sick of it; and the affection of this one person, who had that intercourse, contrasted with the non-appearance of the disease in the 140,000 was, as I maintain, *decisive* evidence.

Many cases, equally decisive, have since occurred, of which I have been informed, on the *first* appearance of a disease *previously unknown* in a town or district, carefully observed;—*e. g.*, at Arbroath in 1853, where there was clear proof that the two first persons, of 15,000 inhabitants of that town, who took Cholera, "had just returned from Dundee, where they had visited persons ill of cholera;" their affection, therefore proves nothing as to the efficacy of intercourse with the sick, in exciting the disease, rather than merely visiting a particular locality;— but the next *six* who took it in Arbroath,—the *first six* inhabitants of that town who took cholera without leaving the town, had repeated and close intercourse with those already affected before they took it; and the inference as to the contagious property is drawn, not from their taking the disease, nor even from their taking it at that time, and in rapid succession, but from their being *the only inhabitants* of Arbroath who took it, during the first week of its existence in that town;—*i. e.*, the positive evidence of the *six* who were known to be exposed to that cause, is supported by

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the *negative* evidence of the *fifteen thousand* who could not be shown to be, and the immense majority of whom certainly were not, so exposed.

I have great hopes that we shall soon have statistical evidence to establish a proposition which no other evidence known to us could justify our admitting, but which, if established, would not only reconcile most of the conflicting statements on this subject, but serve as a guide to almost complete security from any epidemics of this disease in future; viz., that the poison of cholera, *like other known animal poisons*, is developed during the decomposition of the animal matter, the appearance of which is most characteristic of the disease,—that which constitutes the *"rice water stools,"*—but only in a *particular stage* of that decomposition, not immediately after its formation in, or discharge from, the body; and again, not after the decomposition has gone to a certain length. All this can be proved only by Statistics, but is quite susceptible of proof in that way. The last proposition above stated—that no poisonous property is attached to any part of a body dead of cholera, after a certain stage of decomposition has been passed, seems nearly ascertained from the number of instances in which dissecting-rooms have been supplied with bodies of persons dead of cholera, for many weeks together, without any of the students attending them being affected. That the peculiar matter of the cholera evacuations, during its decomposition, perhaps especially in dry air, has a peculiarly poisonous quality, was, I believe, first suspected by Liebig, and partly by the analogy of the poison already mentioned, causing erysipelatous inflammation and puerperal fever,—and also of the *sausage poison*, repeatedly observed on a large scale in Germany, which is developed during a certain stage of the decomposition of the animal matter of those sausages, and disappears when their putrefaction has so far advanced. That the cholera can be communicated to animals by inoculation with this matter, of the peculiar rice water stools, has been sufficiently proved by the experiments of Dr. Lindsay in this country; and if a few more experiments shall give results similar to those of M. Thiersch, at Munich, I think we may assert that the proposition above stated, is *statistically* proved. "Dr. Thiersch collected the intestinal contents, or the evacuations, of cholera patients, and let them decompose under the influence of air and heat. From day to day he dipped into this matter pieces of filtering paper, which he dried, for subsequent experiments on white mice. Two of these animals at a time were exposed to infection for four days, by having a square inch of the filtering paper, thus prepared, moistened with water and mixed with their food. Each mouse took thus 1-2000th gr. daily. The results were as follows:—The preparations from the matter during the first day of decomposition were *innocuous*. To this succeeded a period of from six to nine days, during which decomposition went on, and preparations from the matter in this second period of decomposition, caused disease in 30 out of 34 animals, and death in 12 of the 34. The symptoms were peculiar and characteristic. The hair fell off, the ears dropped, there was languor, then discharge from the bowels, first of white, then watery matter, the urine lost its smell, then was suppressed, the appetite became *depraved*, so that the animals would fill their stomachs with wool; there was no apparent sickness, but such tonic muscular contractions that they seemed

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dead some time before death. On dissection, accumulation of blood in the vessels of the small intestines was invariably found, their contents *watery*, with *abundant epithelial flakes* (just similar to those found in persons dead of cholera); the cortical substance of the kidneys passing into fatty degeneration, the bladder empty, the blood and the contents of the intestines answering to the test of ready mixture with amygdalin, as in the cholera of man,—which will not appear in the healthy animal. To this a third period of decomposition of the matter under trial succeeded, in which these poisonous effects were very slight, or not observed at all."—(See *Medical Times* and *Gazette*, Nov. 25, 1854.)

We have already a statement by Dr. Budd, of statistical observations made on villages in England, where the entrance of Cholera appeared to be prevented by such expedients as these observations immediately suggest, for receiving the rice water evacuations of cholera patients on linen or cotton, and burying or burning, or otherwise effectually destroying their substance, during that period, thus indicated, after they have been passed, and before they have entered on the morbific decomposition; and we have sufficient statistical evidence of the importance of another measure,—which was first adopted, I believe, at Edinburgh in 1832, and has since been recommended by the Board of Health in London, and adopted in different places, although not so generally or satisfactorily as could be wished,—founded on the merely empirical statements I have made as to the communication of the disease from the sick to the healthy, and its apparent adhesion to particular, often very limited, localities, viz.,—the establishment of *houses of refuge* for the reception of all inhabitants of houses or rooms which might become infected with cholera in any town; not themselves affected, nor required for the care of the first cases that might occur. Here such persons might be lodged in pure air, regularly fed, preserved from cold and from other (frequently concurrent) exciting causes of the disease, and treated with due attention to cleanliness, immediately on any symptoms of cholera showing themselves. The London Board of Health report, that they had information of 1691 persons taken into these houses of refuge, from rooms where there were patients in cholera, and of these, only 33 became affected with cholera, and only 10 died. In cases of which I was myself informed, in Edinburgh, at Glasgow, and at Oxford, during different epidemics, 1010 persons were admitted from sick rooms into such houses of refuge, of whom 40 took the disease, and 15 died; whereas the experience of Dr. Hamilton of Falkirk, of 251 cases of cholera appearing in 80 houses, where no such means of separation existed, gives only a fair idea of the extent to which successions of cases will often be observed, in confined air and dirty districts, possessing no such resource.

I am happy to say, that so far back as November last, having written to Dr. A. Smith, at the head of the medical department of the army, on the subject of the decomposition of the rice water stools, as the probable cause of the progagation of cholera, and of districts becoming *tainted* with the poison of that disease,—I was informed by him that he had directed the attention of the medical officers in the Crimea to the facts now stated, so that if the disease shall appear in a malignant form in that

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army, we may hope for at least accurate and truly statistical information as to the reality of that opinion.

Again, as to the Yellow Fever, so frequently becoming epidemic in the hot climates, although we cannot boast of having acquired information either as to the nature of its cause, the essential character of the morbid change it produces, or the power of any remedy over it,—yet by simply empirical observations, *i. e.*, by Statistics, we have information to the following effect, as stated in reports in Germany and France, on inquiries conducted by order of those governments, on a large scale, and considered by committees containing the names of Humboldt and Dupuytren, that it is a disease *endemic*, almost exclusively, "in districts nearly on the level of the sea, never appearing beyond 48° of north latitude, nor without a previous temperature of 72°,—only in certain circumstances propagated by contagion," but when epidemic, always *confined strictly to certain localities;* so that the practical rule of immediately evacuating, *i. e.*, removing *all* the inhabitants of places where it is declared to exist, and has formerly prevailed, is *incontestable*, and "of such proved utility, as will always justify its rigorous execution."

Without dwelling farther on the effects of Malaria, in this or any other climate, which we can only expect to be satisfactorily explained when pathology shall be considerably more advanced than at present, I may merely add, that such collections of facts have been made, and are now frequently repeated, as to the places and circumstances in which it arises from the earth, and the laws according to which it extends and multiplies,—considered merely empirically or statistically,—as we may confidently expect to be successful in disarming this cause of disease likewise of its terrors, long before the nature of the change produced by its action on the living body, or the rationale of any line of treatment of those who may be affected by it, shall become known.

The cure of Epidemic Scurvy, resulting in different cases, as is now satisfactorily established, from different deficiencies in the Diet habitually taken,—the efficacy, therefore, of different kinds of diet in counteracting this form of disease,—still more remarkably, the power of small quantities of vegetable Acids in producing the same effect, and the extraordinary rapidity with which such changes of diet, and these acids, will produce their effect,—may also be stated as examples, on a large scale, and of the most satisfactory kind, of what is generally called the power of Art over a most loathsome and virulent disease,—but in reality must be regarded, now and probably long after our time, as results obtained by simply empirical observations of the course of Nature, statistically arranged, fortunately facilitated by so many of the subjects being organised bodies of men;—and which have distinguished the present age to a degree, which those who are not familiar with the medical writings of the last century will hardly conceive.

We have good reason to hope, that inquiries now on foot as to the external causes of Scrofulous, or of what is now usually called Tubercular disease, including pulmonary Consumption,—an inquiry which we must perceive to be more complex, and in which the operation of various causes must be recognised,—will be effectual in pointing out the means of counteracting that tendency in a very large proportion of cases of persons

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liable to it,—simply on the principle of empirical observation, enlarged and arranged in the form of Statistics, long before we shall have information as to the essential nature of the vital process, or mode of operation of the causes in question.

In illustration of this, I need only mention two facts, recently ascertained on so large a scale, that we have no doubt of their truth and importance, and which, even at present, may be said to be guides to successful practice in many cases only recently thought hopeless, although all that was previously known on the subject was certainly rather adverse than favorable to the supposition that they would ever be established. These are,—1. The good effect of the Cod-liver oil—if not of other animal Oils, on many cases of tubercular disease, in their early stage—provided only that it can be retained on the stomach to the extent of an ounce and a half or two ounces daily; and, 2. The almost complete exemption of the inhabitants of the Faro Islands from tubercular disease, notwithstanding that their climate, as regards cold and damp, is exactly that which, in this country, has been thought most favorable to it.—*Edinburg Med. and Surg. Journ.*

We regret that our limits will not permit us to copy the whole of Prof. Alison's interesting article. His concluding remarks are upon the operation of the New Poor Law Act.—Ed.

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*Illustrations of the Influence of Pregnancy in controlling or retarding the Development of certain Diseases.** By W. F. Montgomery, M. D. Professor of Midwifery to the King and Queen's College of Physicians.

On a former occasion, when treating of the condition of pregnancy, I took occasion to remark that it appeared from experience, that women who bear children generally enjoy more even health and are less disposed to disease than those who lead a life of celibacy, or who, having married, remained unfruitful; so that Gardien seems to express no more than the truth when he says, "Dès qu'une femme est grosse les probabilités de sa vie augmentent;" and this is what we ought, *à priori*, to expect, because, childbearing being the ordinance of an all-wise Providence, we should anticipate that the fulfilment of the duty thus ordained would conduce to the welfare of those on whom it has been devolved.

It seems in conformity with such a view to believe, what indeed, I think, experience has taught us, that pregnancy acts in a great degree as a protection against the reception of disease, and perhaps on the common principle, that during the continuance of one very active operation in the system, it is thereby rendered less liable to be invaded or acted on by another; thus it has been observed, that during epidemics of contagious diseases of different kinds, a much smaller proportion of pregnant women have been attacked than of others: but when attacked, they suffer severely; thus, when the cholera visited this country, the proportion of pregnant women who took the disease was very small, but all who caught it died, I believe, without almost a single exception. Gardien's experience led him to a similar conclusion, he says: "Les femmes enceintes sont moins exposées agagner les maladies contagieuses;

* Read before the Association of the College of Physicians of Ireland.

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mais lorsqu' elles ensont atteintes, elles succombent plus promptement." I think also I have seen sufficient to satisfy me that pregnancy does, at least occasionally, exercise another kind of influence over disease in the system, namely, of preventing its development during that state, although the infection may have been caught; as is proved by the disease showing itself immediately after delivery, as in the following cases:

Mrs. W., when in the ninth month of pregnancy, was much about her brother, who was dangerously ill of malignant scarlatina; she seemed to have escaped the danger completely, but the day after her delivery she was covered with the disease, of which she died in a few days; between the time of her exposure to the infection and her delivery, there had intervened three weeks, during which she appeared to be quite well.

When Mrs. F. was in the eighth month of pregnancy, her husband had typhus fever, in which she assiduously attended him; after his recovery, she went to her father's house, some fifty miles from town, where she was delivered in due time, and immediately afterwards was seized with typhus fever, of which she died in eight days; between five and six weeks had elapsed between Mr. F.'s illness and her labor, and during that interval, she seemed in perfect health.

In the month of November, 1854, I attended a young lady in her first confinement; previous to which she had both the lower extremities much enlarged by anasarca, but she appeared, in other respects, quite well, with one exception, which was that she had such *soreness* of the abdomen, she found a difficulty in laying on either side: and when I passed my hand over the abdomen, she complained that the pressure hurt her everywhere.

On the 12th she was confined, after a favorable labor, but the abdominal tenderness remained, and there was a peculiar doughy feel of the whole abdomen; next day, this was equally felt, but with little or no pain or fever, and a perfectly quiet pulse.

On the 14th, I found the insteps of both feet, but particularly the left, covered with well-developed erysipelas; her mother, who seemed very anxious about her, was present when I examined the feet, and on our reaching the drawing-room said, "Doctor, isn't that very like erysipelas?" I said, "Yes, certainly, there was no doubt about it." "Dear me, sir, do you think she could have taken it from her husband?" She then, for the first time, informed me, that some weeks before leaving home, to come to town for her confinement, her husband had a severe attack of erysipelas, during which she had assiduously nurse-tended him. Immediately on the appearance of the erysipelas on the feet, the abdominal symptoms began to decline, and, after two or three days, ceased to exist. I cannot but believe that this lady caught the infection from her husband during her close attendance on him, that it remained in abeyance until gestation was over, and was then developed. She recovered well.

It is, I believe, a matter of common observation, that when women who have been laboring under certain forms of disease happen to conceive, the morbid affection previously existing is oftentimes either greatly mitigated, checked, or even altogether suspended for a time, as has been frequently observed in persons affected with phthisis; though I must add that the influence of pregnancy in cases of phthisis is a question on

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which a variety of discordant opinions has been given by high authorities. Andral's conclusion, from his latest observations, is, "that in the great majority of cases the symptoms of phthisis are suspended, or at least remain stationary during the course of pregnancy." Louis says he is not "in a condition to determine whether pregnancy is, or is not capable of retarding the progress of phthisis," but he suggests that the fact might be, that several of the symptoms become somewhat more obscure during pregnancy, without any check being in reality given to the advance of the disease. My own experience would lead me to the conclusion, that if a woman predisposed to phthisis, but in whom the disease has not actually become developed, prove pregnant, she is likely to be benefitted thereby; and I think I have seen life thus prolonged, for years, in several instances; but, on the other hand, if pregnancy takes place in a woman already actually in consumption, or if this disease supervene on pregnancy, the fatal issue is as likely to be accelerated as postponed, or, perhaps, even more so.—*Dub'in Quarterly Jour. Med. Sci.*

Abstract of Meteorological Observations for October, 1855, *made at Philadelphia, Pa. Latitude* 39° 57′ 28″ *N., Longitude* 75° 10′ 40″ *W. from Greenwich.* By PROF. JAMES A. KIRKPATRICK.

1855. October.	Barometer. Daily Mean	Barometer. Mean Daily Range.	Thermom. Daily Mean	Thermom. Mean Daily Range	Dew Point 2 P.M.	Force of Vapor 2 P.M.	Rel. Humid. 2 P.M.	Rain.	Prevailing Winds.	Remarks.
	Inches.	Inches.	Deg.	Deg.	Deg.	Inches.	Hunds.	Inch.	Points.	
1	29.651	.215	72.2	6.2	66.5	.628	.72		NW.	M. and aft. cl'dy; ev. clear
2	29.545	.106	68.2	4.0	61.8	.551	.75	0.326	(Var.)	Cloudy; m. and ev. *rain.*
3	29.491	.100	61.7	6.5	57.3	.470	.73	0.072	W.	M. and ev. clear; aft. cl'dy; n't *rain. Bar. l'st* 29.45.
4	29.646	.155	61.0	1.3	50.1	.362	.55		WNW.	M. cl'dy; aft. and ev. cl'r: 7 to 11 P.M. brilliant *aurora.*
5	29.761	.116	69.0	8.0	56.5	.457	.49		SW.	Clear. *Therm. highest* 77°
6	29.673	.088	64.8	5.5	58.5	.501	.92	0.683	S.	Cloudy; m. and aft. *rain.*
7	29.898	.225	51.0	13.8	36.5	.216	.43		WNW.	M. and ev. clear: aft. cl'dy; first *hoar frost* observed.
8	29.928	.045	51.8	2.7	34.9	.203	.42	0.005	WSW.	M. clear; aft. cloudy; ev. drizzling *rain.*
9	29.934	.066	55.7	4.0	48.6	.343	.58		(Var.)	M. cl'dy, aft. and ev. clear
10	30.046	.059	62.0	6.3	58.0	.482	.66		SW.	M. hazy, aft. and ev. clear
11	29.851	.195	66.0	4.0	55.2	.436	.48	0.467	SE.	M. fog: aft. cl'r; ev. & n't *rain.*
12	29.803	.080	49.7	16.3	40.0	.256	.62		NW.	M. & aft. cloudy; ev. clear.
13	29.820	.014	42.2	7.5	37.4	.224	.79	0.038	WSW.	Cl'dy; m. & night drizzling
14	29.822	.017	49.7	7.5	39.6	.243	.57		NW.	Cloudy. [*rain.*
15	29.853	.031	55.2	5.5	42.4	.271	.47		SW.	M. hazy; aft. and ev. clear.
16	29.977	.125	54.3	3.8	46.1	.312	.56		NW.	M. hasy; aft. and ev. clear.
17	30.038	.074	48.7	5.7	40.2	.240	.54		WNW.	Clear.
18	29.971	.067	54.0	5.3	50.8	.372	.63		SW.	M. hazy, aft. and ev. clear.
19	29.951	.022	59.8	5.8	60.2	.522	.79		SW.	M. fog, aft. and ev. clear.
20	29.821	.130	69.8	4.0	60.6	.530	.97	0.431	NNE.	M. fog; *rain* from 11¼ A.M.
21	29.698	.123	63.0	3.2	61.0	.536	.84	0.013	(Var.)	Cloudy; m. drizzling *rain.*
22	29.731	.059	56.7	6.3	43.5	.283	.54		W.	M. hazy, aft. cl'dy, ev. clear.
23	29.810	.079	47.0	9.7	40.0	.247	.71		(Var.)	Cloudy; aft. & night *rain.*
24	29.579	.231	46.5	2.8	45.8	.308	.80	1.304	NNE.	Cl'y, *rain* continued all day
25	29.826	.247	41.7	4.8	26.9	.146	.47		W.	M. & ev. cl'r; aft. cl'y; *rain* mingled with *snow.*
26	30.001	.237	43.0	3.3	31.2	.175	.50		WSW.	M. & ev. cl'y; aft. cl'r. *Ther.*
27	29.772	.229	47.5	4.3	39.5	.243	.58	0.017	(Var.)	Cl'dy; m. *rain.* [*lowest* 34°
28	29.668	.158	50.5	2.8	32.8	.187	.42		NW.	M. & aft. cloudy; ev. clear.
29	30.052	.384	48.2	3.5	34.3	.198	.43		SW.	M. hasy; aft. and ev. clear.
30	29.927	.125	57.7	9.5	53.6	.412	.60		SW.	M. cloudy; aft. & ev. clear.
31	30.157	.106	53.3	5.0	38.0	.229	.47		NE.	Cl'dy. *Bar. highest* 30.187.
Means for Oct., 1855	29.831	.131	56.2	5.8	47.0	.348	.61	3.416	S. 88½° W. 70-100.	
Means for Oct., 6 yrs.	29.932	.133	55.7	5.4	45.9		61.	2.763	N. 73½° W. 50-100.	

The Monthly Range of the Mercury in the Barometer was 0.732 of an inch, and in the Thermometer 42°.

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